

JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

SR-S388E(A)/EK(A)/EC(A)



VHS 625 VHS
PAL

Hi-Fi

This service manual describes only the matters that are different from the SR-S388E/EK/EC.
On servicing, refer to the service manual (No. 9336) for the SR-S388E/EK/EC together with
this. V22249 (198)

SR-S388E/EK/EC have been changed to SR-S388E(A)/EK(A)/EC(A) since the following serial number. The mechanism assembly has been changed to an aluminum die-cast one and the main board assembly has been changed as well. To distinguish the new model from the conventional models, a label printed (A) is attached after the model No. of the rating label (Serial No. label) and the front panel. This service manual only explains the changed sections, therefore, to carry out the services for the (A) version, please refer to the manual for the SR-S388E/EK/EC (No. 9336) as well.

The following serial No. are the modified sets.

SR-S388E XX3X4416 and after
 SR-S388EK XX3X0848 and after
 SR-S388EC XX3X8259 and after

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.
2. Parts identified by the $\triangle$ symbol and shaded (■) parts are critical for safety.
Replace only with specified part numbers.
Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.
3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.
4. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
5. Use specified insulating materials for hazardous live parts.
Note especially:

1) Insulation Tape	3) Spacers	5) Barrier
2) PVC tubing	4) Insulation sheets for transistors	
6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

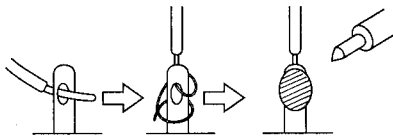


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
8. Check that replaced wires do not contact sharp edged or pointed parts.
9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

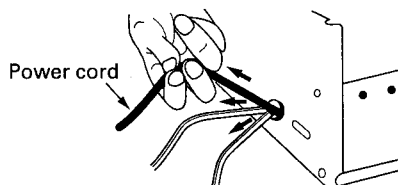


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

- 1) **Connector part number** : E03830-001
- 2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- 3) **Replacement procedure**
 - (1) Remove the old connector by cutting the wires at a point close to the connector.
Important : Do not reuse a connector (discard it).

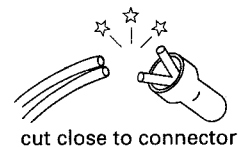


Fig.3

- (2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

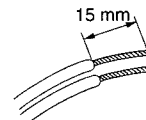


Fig.4

- (3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

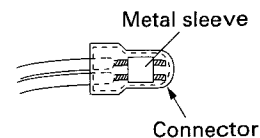


Fig.5

- (4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

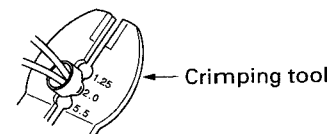


Fig.6

- (5) Check the four points noted in Fig.7.

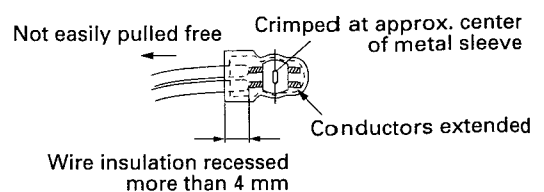


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

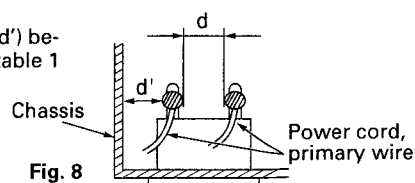


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

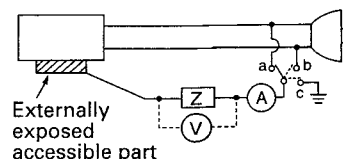


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

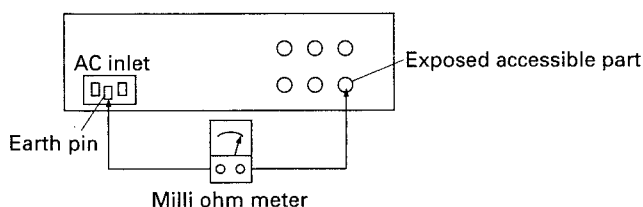


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	—	AC 900 V 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm}$ (Power cord) $d' \geq 6 \text{ mm}$ (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ in parallel with $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1 SERVICE CAUTION

1.1 DIFFERENCE BETWEEN SR-S388E/EK/EC AND SR-S388E(A)/EK(A)/EC(A).

This table shows differences only.

Item	SR-S388E/EK/EC	SR-S388E(A)/EK(A)/EC(A)	Remrks
Subsection 7.1 Packing M 1			
Packing label	No (A) mark	With (A) mark	—
Subsection 5.1 Cabinet and chassis assembly M 2			
⑧ SCREW	SDST2608Z	SDSP2606Z	Fixxing the drum assembly
②④ TERMINAL BOARD	PRD19003	PRD19003-01-02	Design has been changed
⑥ SCREW	No	SDSF3008Z	Fixxing the FG AMP board
⑪ RATING LABEL	No (A) mark	With (A) mark	—
③④ LABEL	No	PGD40197	Ⓐ label of Front panel
①⑨ CASSETTE HOUSING ASSEMBLY	PUS29724A-5	PGS30402A	No interchangeability
⑫ SCREW	SDST2612Z	—	Fixxing the cassette housing
⑧ SCREW	—	SDSP2606Z	Fixxing the cassette housing at left
⑩ SCREW	—	SDST2610Z	Fixxing the cassette housing at right
Subsection 5.2 Mechanism assembly M 4			
They have no interchangeability, refer to Section 5 Exploded views and parts list and Section 2 Mechanism adjustment.			
Section 6 ELECTRICAL PARTS LIST			
MAIN BOARD ASSEMBLY ①③	SLK1043-01A	SLK1113-00A	No interchangeability
FG AMP BOARD ASSEMBLY ⑤⑥	—	SLK2072-00A	Added

SECTION 2

MECHANISM REPAIR/ADJUSTMENT PROCEDURES

2.1 BEFORE MAKING REPAIR/ADJUSTMENT

2.1.1 Precautions

- (1) When using the soldering iron, be sure to disconnect the power cord of the main unit from the AC outlet beforehand.
- (2) Pay attention not to damage the wires when connecting/disconnecting the connectors.
- (3) Do not touch the parts around the adjustment point because of wrongly specifying the defective point.
- (4) Pay special attention not to injure claws, etc. by accident during the repair operation.
- (5) When mounting the cassette housing assembly, set the unit exclusively to the mechanism assembly position. (Refer to chapter 2.3.2.)
- (6) When remove any slit washers, replace them new one.

2.1.2 How to unload the cassette tape manually

When the unit malfunctions with the cassette tape being left loaded and the cassette tape cannot be ejected, remove the cassette tape in the following manner:

- (1) Be sure to disconnected the power cord and remove the top cover.
- (2) For unloading, rotate the loading motor in the main deck assembly manually toward you. At this time, unload the tape by rotating the capstan motor counterclockwise and winding the tape so that the grease does not come into contact with the slackened tape.
- (3) When the tape comes to the position where the pole base assemblies (supply side, take-up side) and guide arm assembly are hidden by the cassette shell, stop rotating the capstan motor, and check that the tape is fully wound up.
- (4) When the capstan motor is further rotated counterclockwise, the cassette housing is ejected, then the cassette tape may be removed.

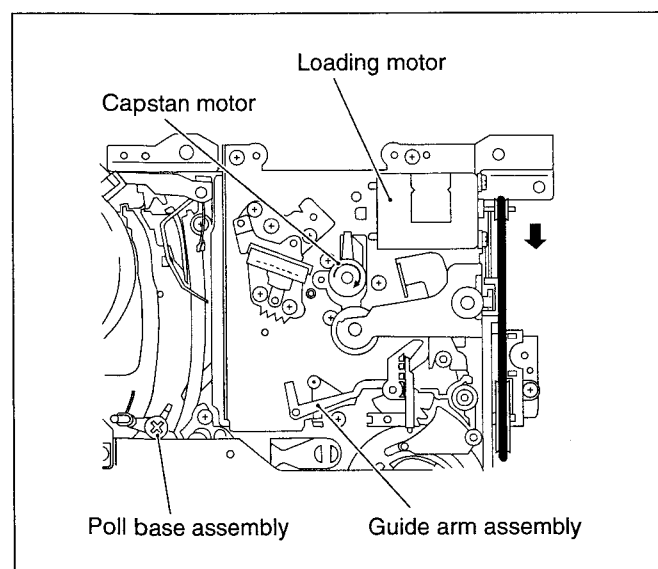


Fig. 2-1-1

2.1.3 Special implements and Tools Required for Adjustment

Alignment tape (SP) MHPE	Alignment tape MBPE-X
Alignment tape (EP) MHPE-L (Recording CH-1 only)	Cassette torque meter PUJ42881
A/C head position bit PTU94010	Roller driver PTU94002
Grease KYODO-SH-P/MD-2000/KANTO-GB-TS-1 Oir COSMO-HV56	Parallel check plate PGJ05035 (0.05 mm)

Table 2-1-1 Special implements and tools required for adjustment

2.1.4 Specifications of alignment tape

• MHPE

Video Signal	Audio Signal	Applications
VHS SP Stairstep	6 kHz	- Interchangeability adjustment - PB switching point adjustment.

• MHPE-L (Recording CH-1 only)

Video Signal	Audio Signal	Applications
VHS LP Stairstep	—	Interchangeability adjustment

• MBPE-X

Video Signal	Audio Signal	Applications
VHS SP Stairstep	6 kHz	X-value adjustment
(1 field per 5 frame does not contain video and audio)		

2.2 MAINTENANCE AND CHECK

2.2.1 Location of main mechanical parts

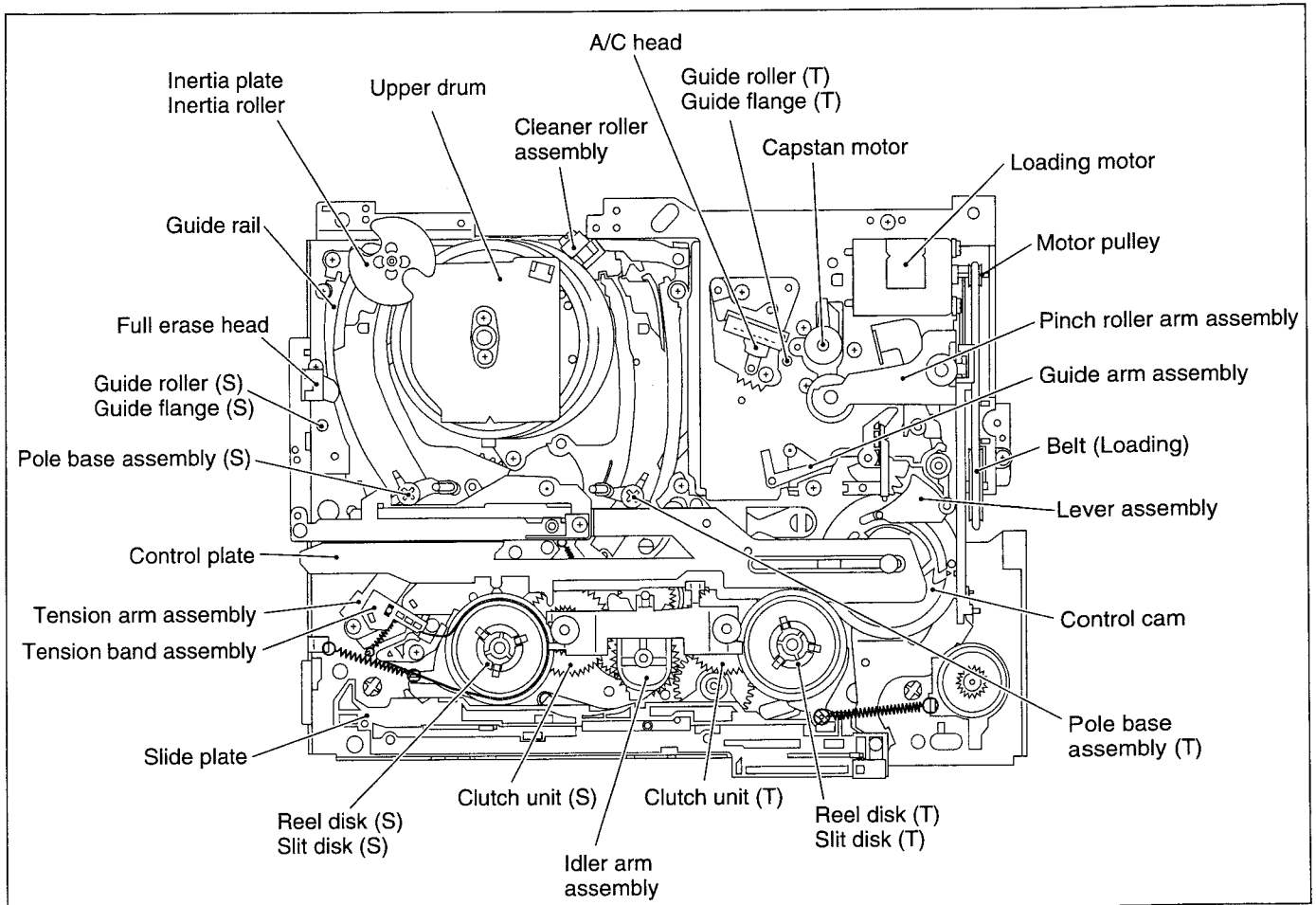


Fig. 2-2-1 Main deck top side

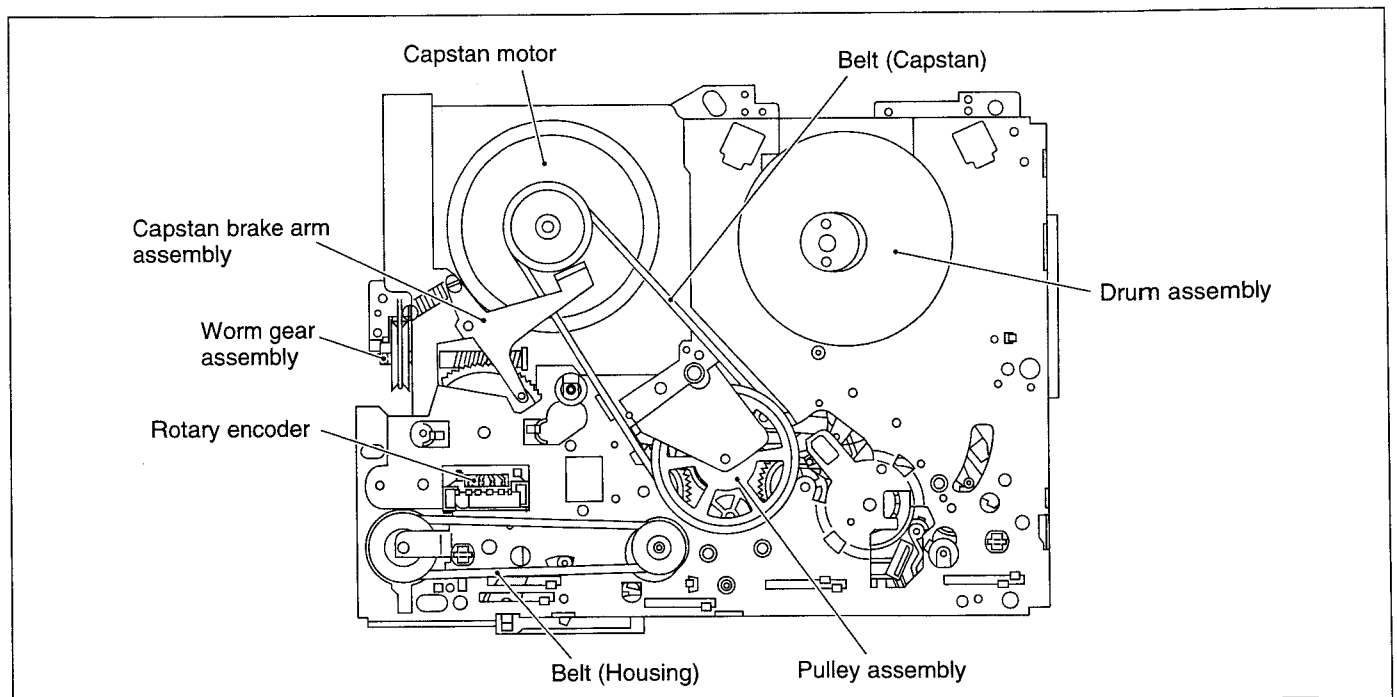


Fig.2-2-2 Main deck bottom side

2.2.2 Maintenance of main parts and periodical reference

Table 2-2-1 Maintenance & Check Schedule is compiled as standard of main parts replacement on the assumption that the set is used in ordinary conditions. Therefore, replacing periods indicated in the table greatly differ depending on actual use and environmental conditions. If the maintenance check is not per-

formed correctly, the service life shown in the following chart will be greatly reduced and it could affect the other units. However, it is recommended that rubber parts are replaced every three years as these could be affected by aging.

Category		Part Name	Symbol No. of Part and it appears in	Standard Service Period (Operation Hours)					Remarks
				500	1000	2000	3000	4000	
Tape transport system	1	TAPE TRANSPORT PART	—	★	★	★	★	★	—
	2	GUIDE FLANGE (S, T)	M4-26	★	★	★	★	○★	2.3.20
	3	FULL ERASE HEAD	M4-82	★	★	○★	★	●	2.3.12
	4	POLE BASE ASSEMBLY (S)	M4-112	★	★	○★	★	●	2.3.19
	5	POLE BASE ASSEMBLY (T)	M4-113	★	★	○★	★	●	2.3.19
	6	A/C HEAD ASSEMBLY	M4-108	★	★	○★	★	●	2.3.13
	7	CAPSTAN SHAFT	—	★	★	★	★	★	—
	8	PINCH ROLLER ARM ASSEMBLY	M4-107	★	○★	●	○★	●	2.3.7
	9	GUIDE ARM ASSEMBLY	M4-106	★	★	○	★	★	2.3.21
	10	UPPER DRUM ASSEMBLY	M2-23B	★	○	●	○	●	2.3.5
	11	DRUM ASSEMBLY	M2-23	★	★	●	★	●	2.3.10
Drive system	12	CAPSTAN MOTOR	M4-72			○		●	2.3.9
	13	TENSION BAND ASSEMBLY	M4-89		○	●	○	●	2.3.8
	14	CLUTCH UNIT (S)	M4-104		○	●	○	●△	2.3.11
	15	CLUTCH UNIT (T)	M4-105		○	●	○	●△	2.3.11
	16	BELT	M4-38, 70, 78		○	●	○	●	2.3.14/2.3.15
	17	MAIN BRAKE (S) ASSEMBLY	M4-91		○	●	○	●	2.3.24
	18	MAIN BRAKE (T) ASSEMBLY	M4-93		○	●	○	●	2.3.24
	19	SUB BRAKE (S) ASSEMBLY	M4-92		○	●	○	●	2.3.18
	20	SUB BRAKE (T) ASSEMBLY	M4-94		○	●	○	●	2.3.17
	21	CAPSTAN BRAKE ARM ASSEMBLY	M4-123			●		●	2.3.9
	22	IDLER ARM ASSEMBLY	M4-103			●		●	2.3.16
	23	REEL DISK (S) (SPACER)	M4-95, 96, 97, 98			●		●	2.3.11
	24	REEL DISK (T)	M4-99, 100, 101			●		●	2.3.11
	25	SLIT DISK (S)	M4-35			●		●	2.3.25
	26	SLIT DISK (T)	M4-36			●		●	2.3.25
	27	WORM GEAR ASSEMBLY	M4-122			●		●	2.3.28
	28	CONTROL CAM	M4-51			●		●	2.3.23
	29	PULLEY ASSEMBLY	M4-102			●		●	2.3.27
	30	CONTROL PALTE	M4-52			●		●	2.3.11
	31	SLIDE PLATE	M4-65			●		●	2.3.24
	32	LOADING ARM ASSEMBLY (S)	M4-114			●		●	2.3.26
	33	LOADING ARM ASSEMBLY (T)	M4-115			●		●	2.3.26
	34	LOADING MOTOR	M4-118			○		●	2.3.22
	35	MOTOR PULLEY	M4-119			○		●	2.3.22
Other	36	CLEANER ROLLER ASSEMBLY	M4-7	○	●	●	●	●	2.3.6
	37	ROTARY ENCODER	M4-84					●	2.3.23
	38	CASSETTE HOUSING ASSEMBLY	M2-19					○	1.1/8000h replacement

★: Cleaning ○: Check and replacement if required ●: Replacement △: Lubrication to the shaft

Table 2-2-1 Maintenance & Check Schedule

2.2.3 Cleaning

Periodical cleaning of the tape transport system is desirable. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brush can reduce playback picture quality and in extreme cases, even damage the tape.

- (1) To clean the video heads, press a quality moistened paper gently against the upper drum with fingertip and turn the drum counter clockwise by hand.

Note: Do not stroke it vertically, as this may damage the heads.

- (2) For cleaning of the tape transport mechanism parts other than the upper drum, use a close weave cloth or cotton swab dipped in alcohol.
- (3) After cleaning, be sure to check that the cleaned points are completely dry before loading the video tape.

2.2.4 Lubrication

It is not necessary to periodically lubricate oil or grease, apply lubrication to the new parts only when replacing them. If there is oil or grease at points which come into contact with the replaced parts, wipe it off and lubricate again.

- (1) For the points where oil or grease is to be applied, refer to the mechanism assembly exploded view diagram **M4**. For oil/grease to be used, refer to Table 2-2-1.

Classification	Name	Part No.	Symbol in Exploded View
Grease	Mal Temp SF-P	KYODO-SH-P	AA
Grease	Dry Surf	MD-2000	CC
Grease	Floil GB-TS-1	KANTO-GB-TS-1	DD
Oil	Cosmo Hydro HV56	COSMO-HV56	BB

Table 2-2-1 Greases and Oil used in the Unit

- (2) Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

2.3 REPLACEMENT OF MAIN PARTS

Whenever coming across an instruction to refer to Chapter 1.1 on "REMOVAL OF MAIN PARTS" in the section of REPLACEMENT OF MAIN PARTS, refer to SR-S388E/EK/EC Service Manual (No. 9336).

2.3.1 Before removing

This locates the mechanism assembly positions where parts removal and reassembling are performed.

2.3.2 How to set to the mechanism assembly position

Remove the cassette housing assembly (refer to Chapter 1.1 "REMOVAL OF MAIN PARTS"), and rotate the mode motor so that the control cam positioning hole comes to the chassis hole on the main deck assembly. In this status, the unit is set at the mechanism assembly position.

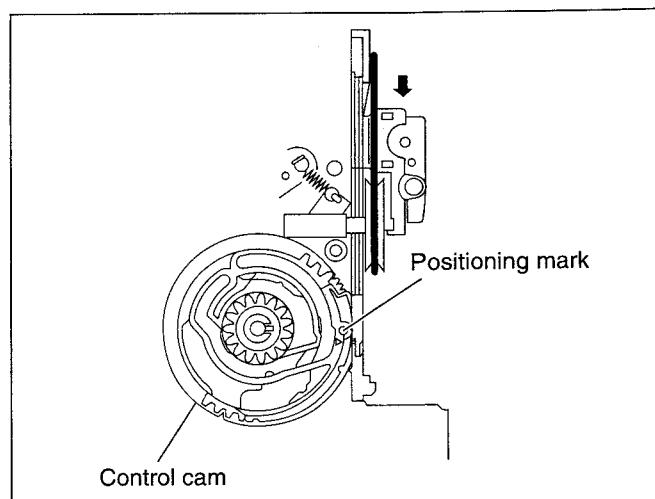


Fig. 2-3-1

2.3.3 Stator Assembly

- (1) Remove the flat cable.
- (2) Take out 2 screws (S10).
- (3) Raise the stator assembly in the direction indicated by the arrow to remove it (also remove the inertia roller).
- (4) To reinstall, first secure inertia roller and the flat cable, then insert 2 screws (S10).

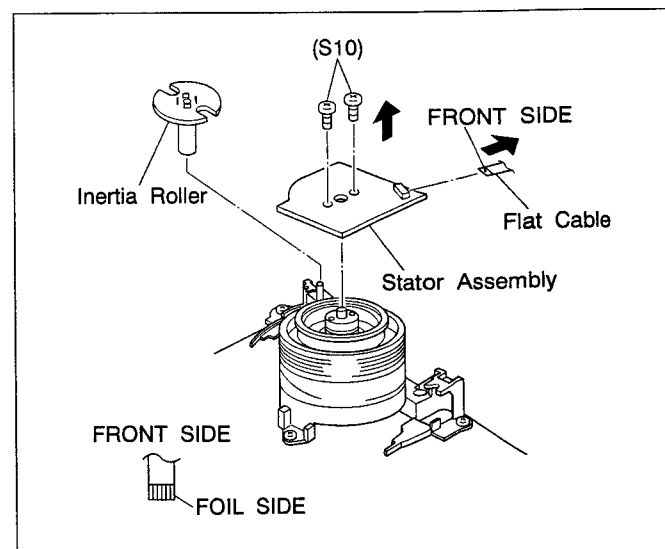


Fig. 2-3-2

- (5) After reinstalling, be sure to perform PB switching point adjustment (See SECTION 3 ELECTRICAL ADJUSTMENT).

NOTE: When refitting the connector, check that the flat wire is inserted correctly.

2.3.4 Rotor Assembly

① How to remove

- (1) Remove the stator assembly.
- (2) Take out 2 screws (S11) and remove the rotor assembly.

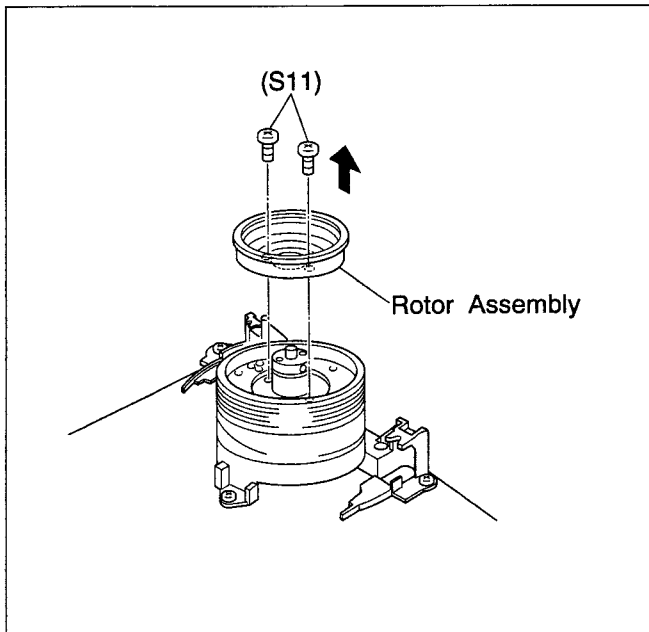


Fig. 2-3-3

② How to reassemble

- (1) Align the upper drum assembly and rotor assembly phase as indicated in Fig. 2-3-4.
- (2) Overlap holes (a) of the upper drum assembly with holes (b) of the rotor assembly and secure with 2 screws (S11) as indicated in Fig. 2-3-3.

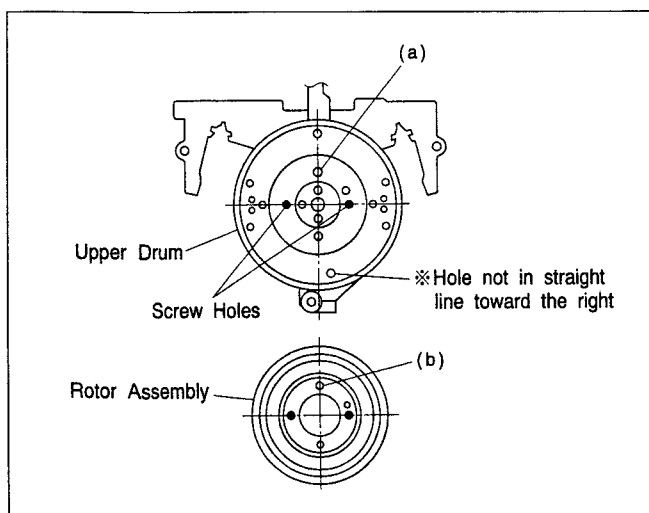


Fig. 2-3-4

2.3.5 Upper drum assembly

1. Removal

- (1) Remove the stator assembly (see 2.3.3) and rotor assembly. (See 2.3.4)
- (2) Use a 1.5 mm hexagonal driver to loosen the collar assembly screw and remove the collar assembly.
- (3) Remove the upper drum assembly and use tweezers to remove the washer.

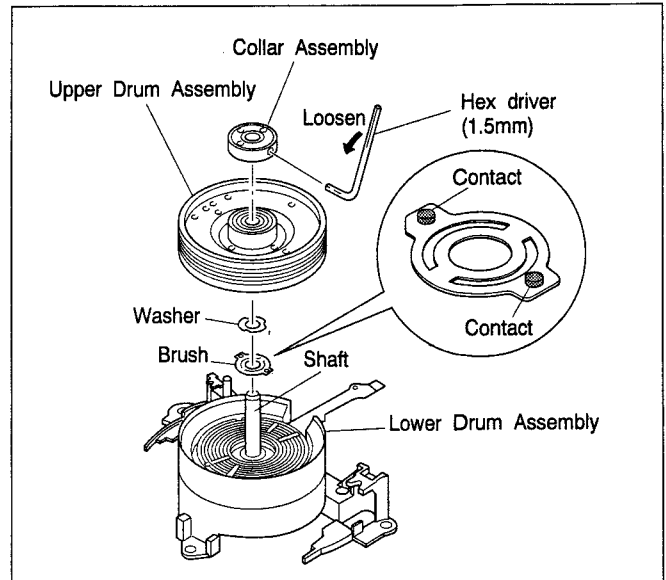


Fig. 2-3-5 (1)

NOTE: If the Brush is replaced, do not apply the grease to the contacts.

2. Installation

- (1) Use an air brush to clean the lower drum assembly and the coil section of the new upper drum assembly.
- (2) Set a new washer on the drum shaft as indicated in Fig. 2-3-5(1).

NOTE: Be sure to use the new washer when replace the upper drum assembly.

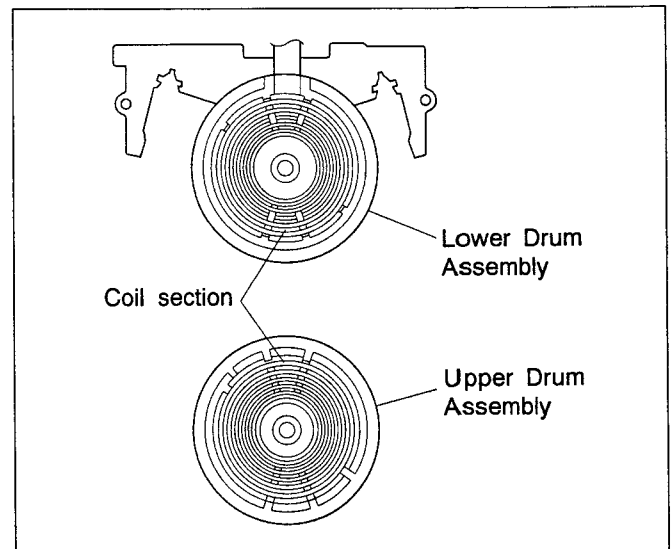


Fig. 2-3-5 (2)

- (3) Note the top and bottom of the collar assembly and determine the position as indicated in Fig. 2-3-5(3).

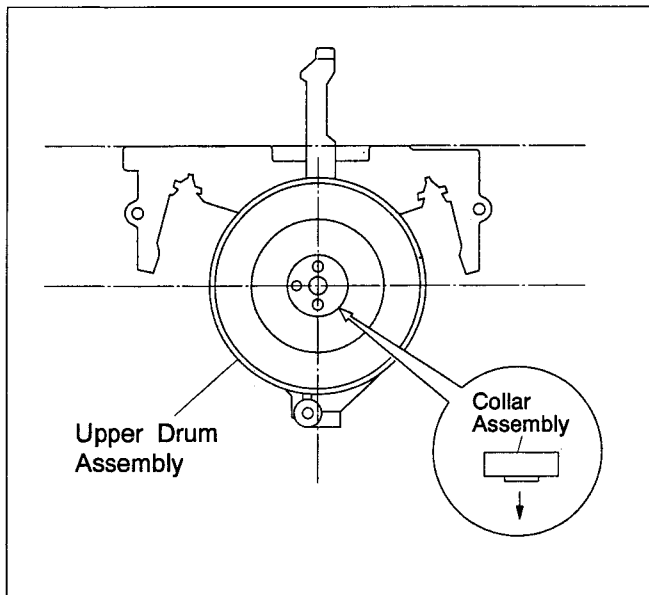


Fig. 2-3-5 (3)

- (4) While pressing the collar assembly evenly from above with your fingertips, secure the hexagonal screw.

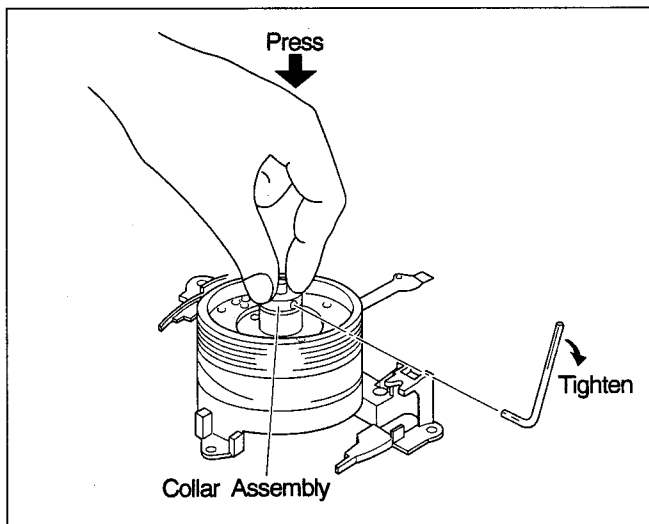


Fig. 2-3-5 (4)

- (5) After installing, gently turn the upper drum by hand and confirm normal rotation.
- (6) Install the rotor assembly (see 2.3.4) and stator assembly. (See 2.3.3)
- (7) Clean the upper and lower drum assembly and perform the following adjustment;
- FM waveform linearity check/adjustment (see 2.5.1)
 - A/C head phase (X value) check/adjustment (see 2.5.3)
 - PB switching point (see 3.3.1)
 - Slow tracking preset (see 3.3.2)
 - SP/LP REC color level (see 3.4.6)
 - S-VHS VIDEO EQ (see 3.4.7)
 - Audio REC FM level (see 3.6.1)

2.3.6 Head cleaner

- (1) While releasing the claws (L5) by the driver, remove the head cleaner assembly.
- (2) Replace the new cleaner.
- (3) Install the head cleaner assembly for (b) to face the drum side.

Be sure to check to clean correctly during loading/unloading mode.

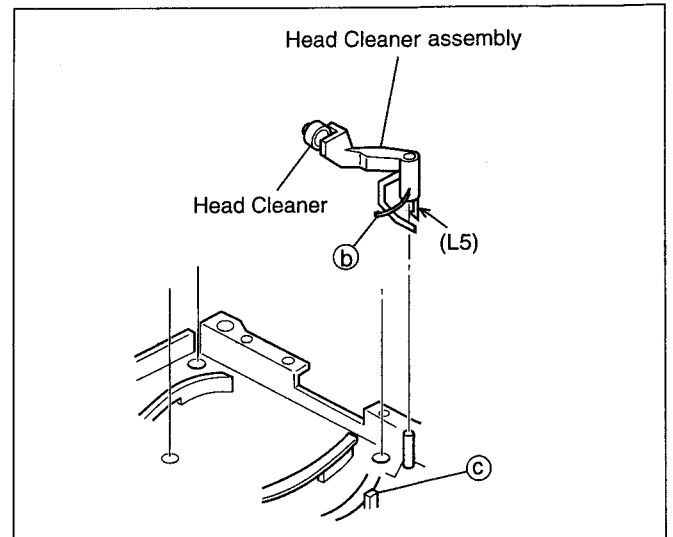


Fig. 2-3-6

2.3.7 Pinch roller arm assembly

① How to remove

- (1) Remove the slit washer.
- (2) While pushing aside the pinch plate in the direction of the arrow, remove the pinch roller arm assembly.

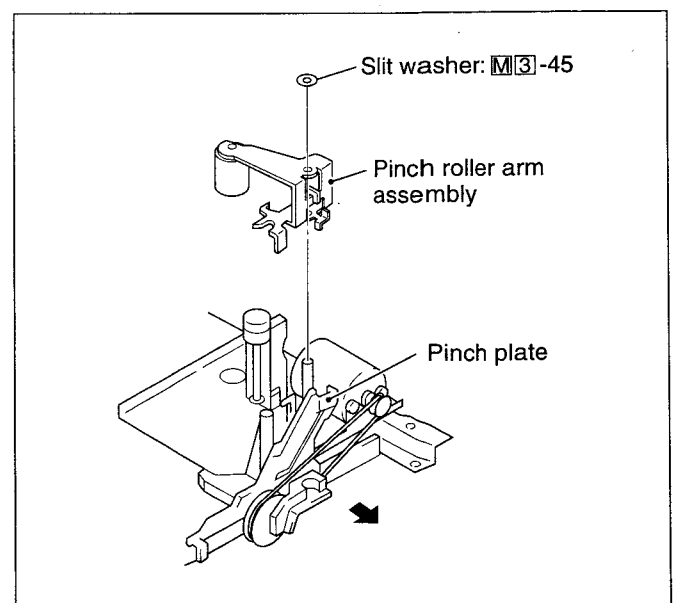


Fig. 2-3-7

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.8 Tension band assembly

① How to remove

- (1) Remove the cassette housing assembly. (refer to chapter 1.1 "REMOVAL OF MAIN PARTS")
- (2) Remove the screw ③.
- (3) Slide part of ① to ← left and then while releasing the claws, remove the tension band assembly.

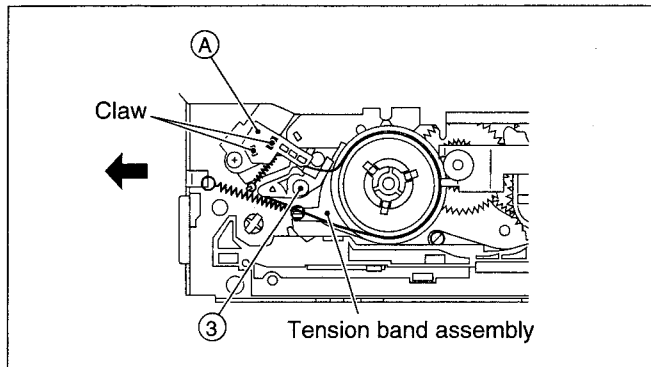


Fig. 2-3-8

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) After reassembling, check the following adjustment:
 - Tension arm position check/adjustment (refer to Chapter 2.5.5)

2.3.9 Capstan motor, Capstan brake arm assembly

① How to remove

- (1) Remove the mechanism assembly. (Refer to Chapter 1. 1 "REMOVAL OF MAIN PARTS".)
- (2) Remove the slit washer and remove the capstan brake arm assembly.
- (3) Remove the belt.
- (4) Remove the three screws ④ and remove the capstan motor from the back of the mechanism assembly.

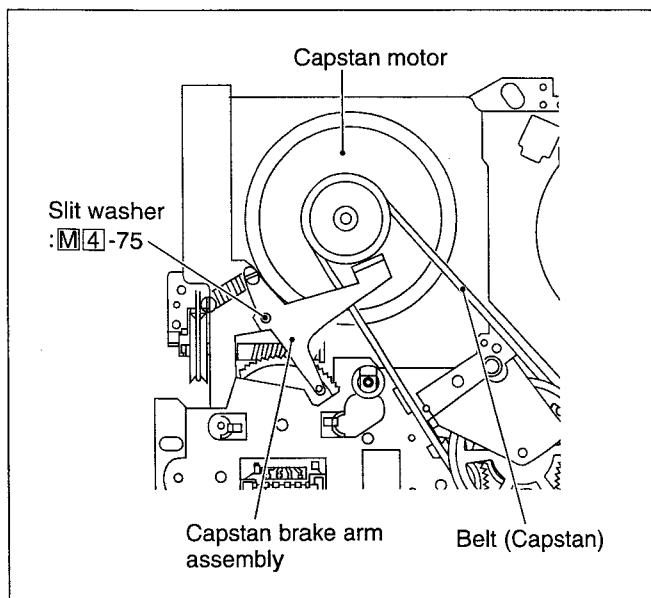


Fig. 2-3-9 (1)

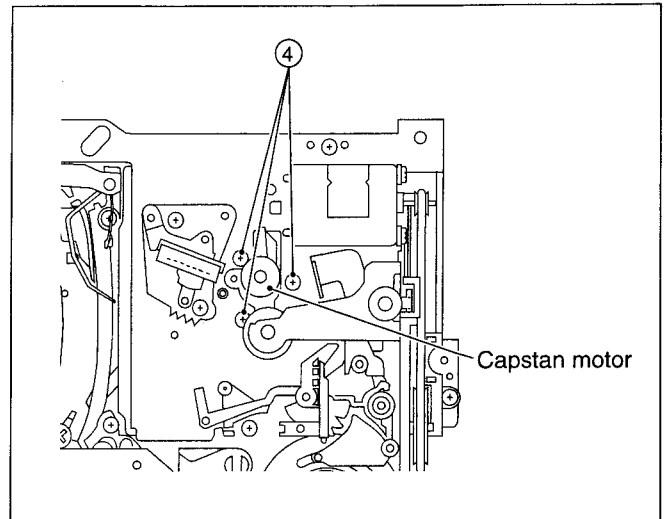


Fig. 2-3-9 (2)

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.10 Drum assembly

Note: A drum base is installed with the drum assembly in order to facilitate service maintenance. However, it is no longer necessary for the SR-S388E(A), so please remove it.

To remove the drum base, remove the three screws ⑤. [Refer to the Fig. 2-3-10 (1).]

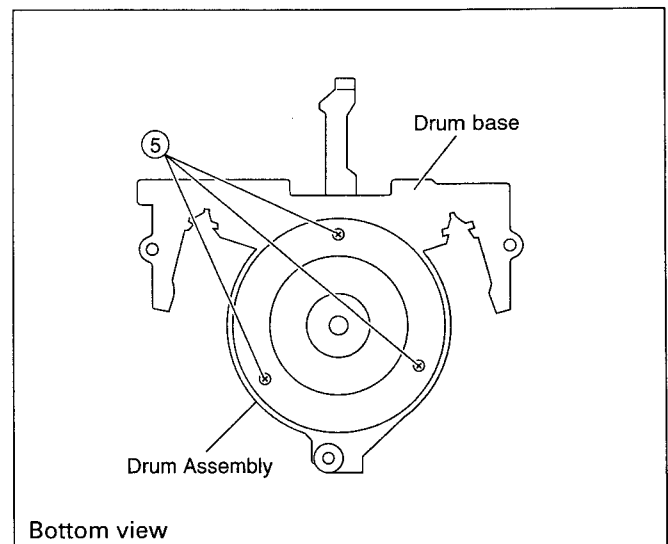


Fig. 2-3-10 (1)

① How to remove

- (1) Remove the mechanism assembly. (Refer to Chapter 1. 1 "REMOVAL OF MAIN PARTS".)
- (2) Be careful the drum assembly drop down, remove the three screws ⑦ and remove the drum assembly.

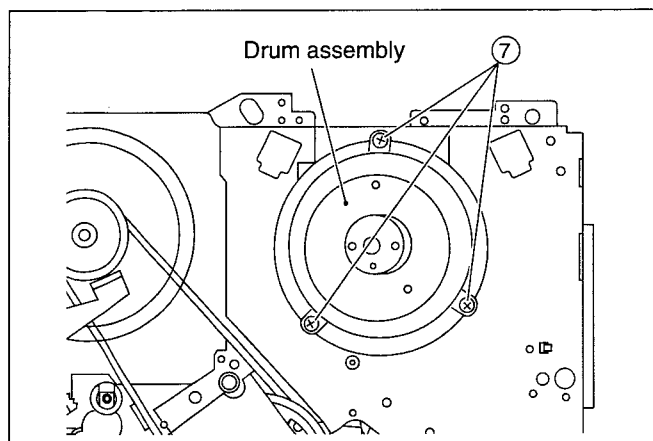


Fig. 2-3-10 (2)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) After replacing the parts, clean the upper drum assembly and the lower drum assembly, then check the following adjustments:
 - FM waveform linearity check/adjustment (see 2.5.1)
 - A/C head phase (X value) check/adjustment (see 2.5.3)
 - PB switching point (see 3.3.1)
 - Slow tracking preset (see 3.3.2)
 - SP/LP REC color level (see 3.4.6)
 - S-VHS VIDEO EQ (see 3.4.7)
 - Audio REC FM level (see 3.6.1)

2.3.11 Clutch unit (S), (T), Control plate, Reel disk (S), (T)

① How to remove

- (1) Remove the two slit washers and then remove the reel bracket.

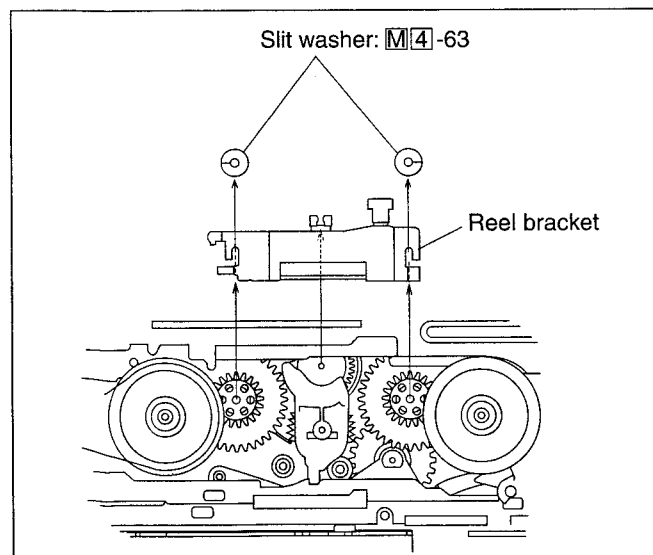


Fig. 2-3-11 (1)

- (2) Release the claw and then release the tension band assembly from the reel disk (S). (Refer to Fig. 2-3-5.)
- (3) Remove the reel disks (S), (T). The reel disks for SP side and TU side are different. Make sure to install the correct ones.
- (4) Remove the screw ⑧ and remove the control bracket 2.

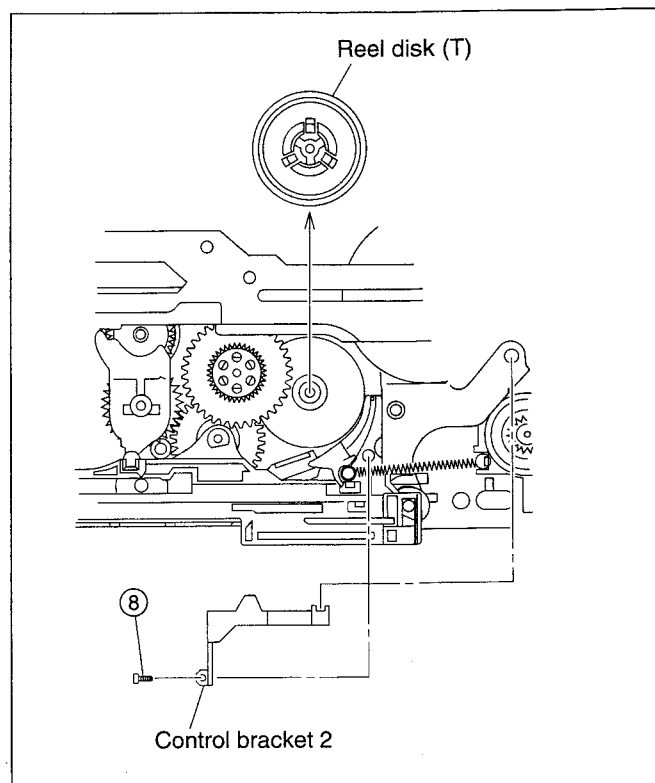


Fig. 2-3-11 (2)

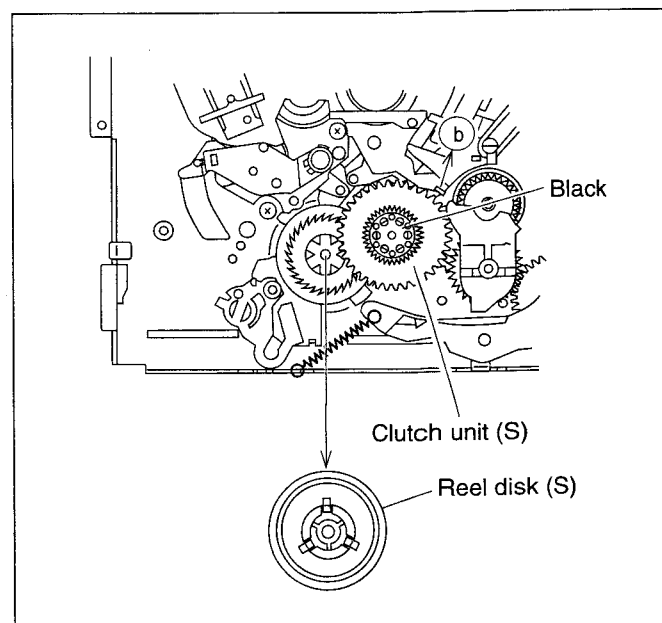


Fig. 2-3-11 (3)

- (5) Remove the screw ⑨ and screw ⑩.
- (6) Remove the earth plate and the control bracket.

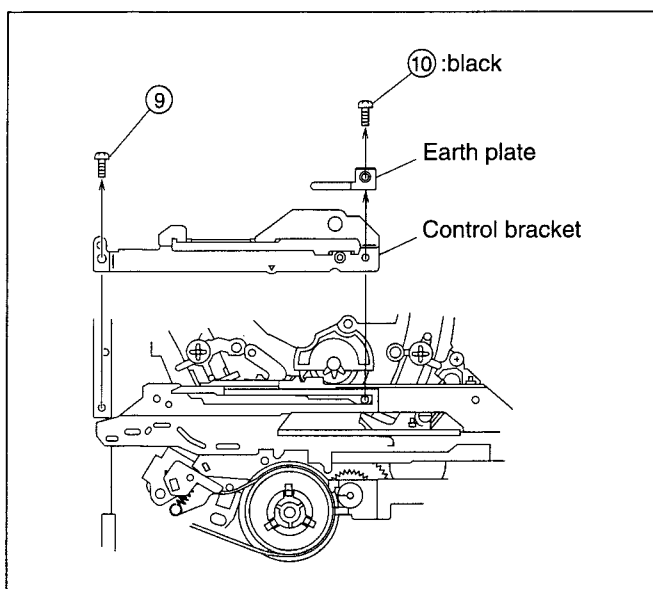


Fig. 2-3-11 (4)

- (7) Remove the slit washer.
- (8) Release the hooks at the two points and remove the control plate.
- (9) Remove the clutch units (S), (T).

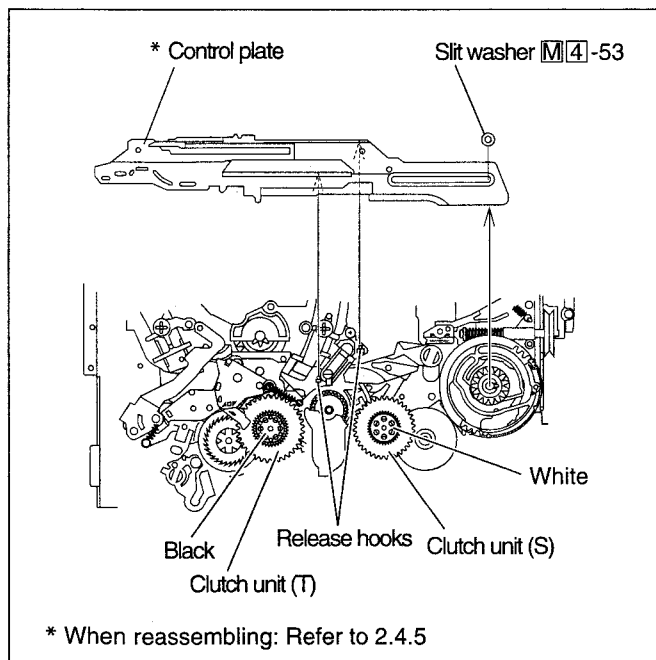


Fig. 2-3-11 (5)

② How to reassemble the reel disk (S), (T)

- (1) Reel disk (S)

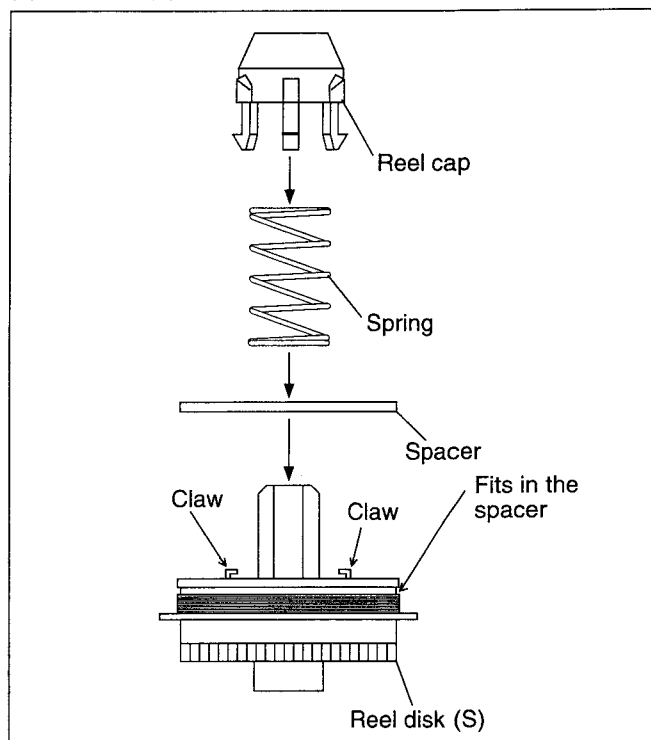


Fig. 2-3-11 (6)

- (2) Reel disk (T)

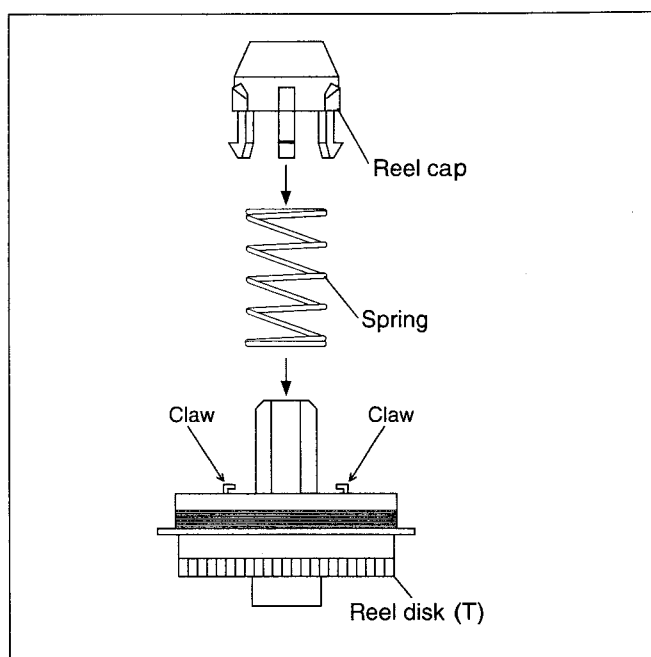


Fig. 2-3-11 (7)

③ How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) When mounting the control plate, set the phase of the control plate appropriately by referring the "How to mount the main parts".
(Refer to Chapter 2.4.5.)

2.3.12 Full-erase head

- (1) Remove the wire.
- (2) Remove the screw ⑪ and remove the full-erase head for replacement.

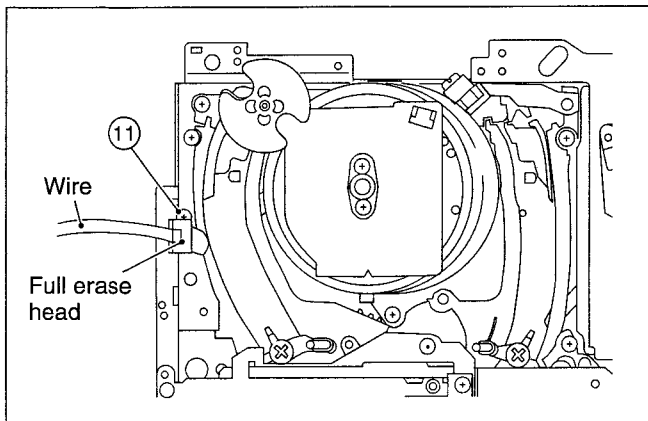


Fig. 2-3-12

2.3.13 A/C head assembly

① How to remove

- (1) Remove the wire.
- (2) Remove the three screws ⑬ and remove the A/C head assembly.

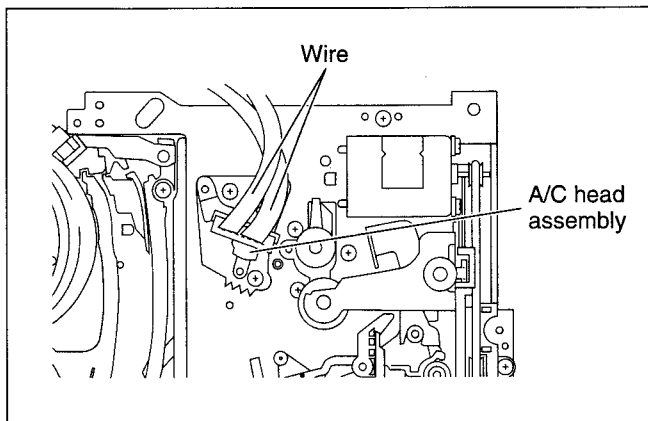


Fig. 2-3-13 (1)

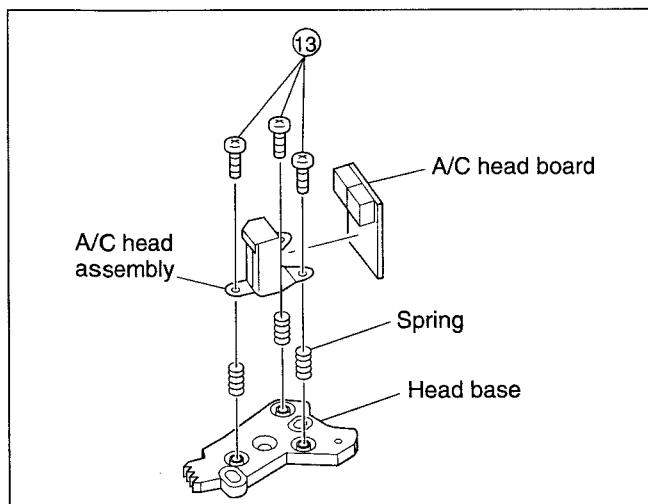


Fig. 2-3-13 (2)

② How to reassemble

- (1) To make the adjustment after reassembling easier, set the mounting height temporarily, then reassemble in the reverse order of removing.

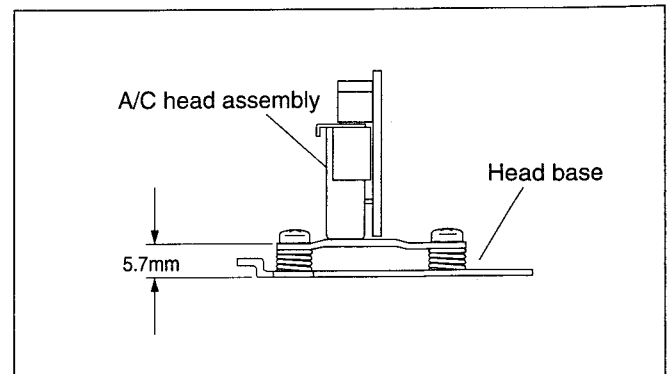


Fig. 2-3-13 (3)

- (2) After reassembling, clean the A/C head and perform the following adjustment:

- Interchangeability adjustment (refer to Chapter 2.5)

2.3.14 Belt (Loading)

- (1) Remove the belt (loading) from the worm gear and motor pulley.

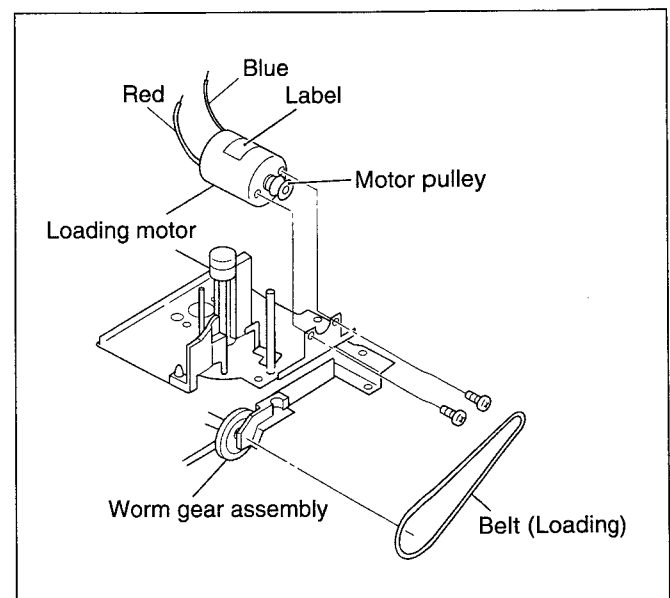


Fig. 2-3-14

2.3.15 Belt (Capstan, Housing)

① How to remove

- (1) Remove the mechanism assembly. (Refer to Chapter 1. 1 "REMOVAL OF MAIN PARTS".)
- (2) Remove the belts from the pulleys at each point, and replace them with new ones.

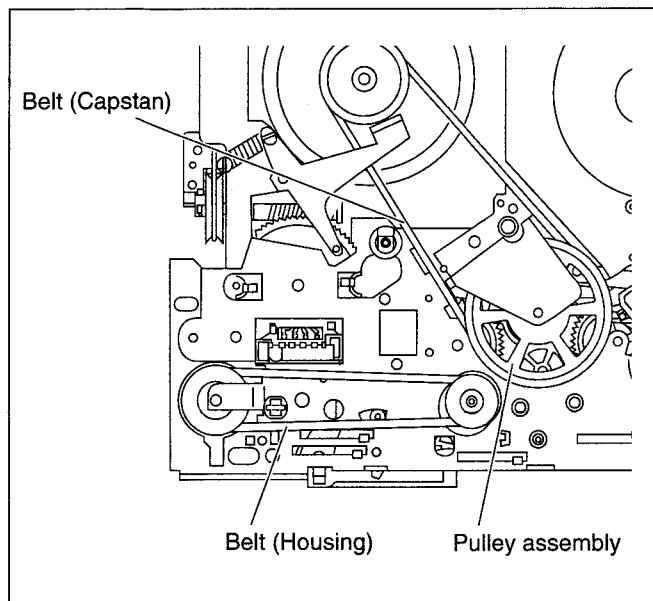


Fig. 2-3-15

2.3.16 Idler assembly

① How to remove

- (1) Remove the two slit washers and remove the reel bracket. (Refer to Fig. 2-3-11(1).)
- (2) Remove the control plate. (Refer to Chapter 2.3.11.)
- (3) Release the idler lever while push the idler assembly, take out the idler assembly.

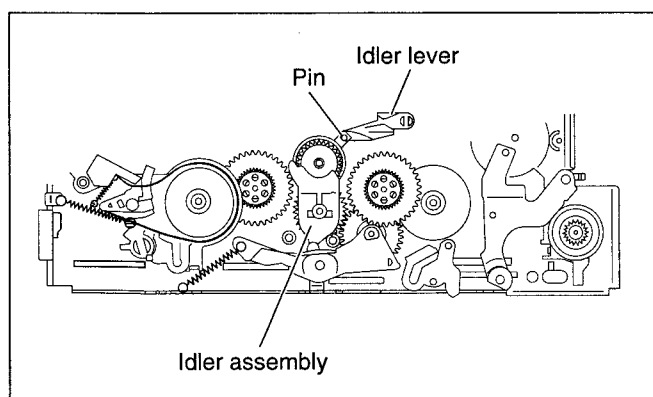


Fig. 2-3-16

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.17 Sub brake assembly (T)

① How to remove

- (1) Remove the two slit washers and then remove the reel bracket. (Refer to Fig. 2-3-11 (1).)
- (2) Take out the reel disk (T). (Refer to Fig. 2-3-11 (2).)
- (3) Remove the spring in the sub-brake assembly, and remove the sub brake assembly by releasing the hook.

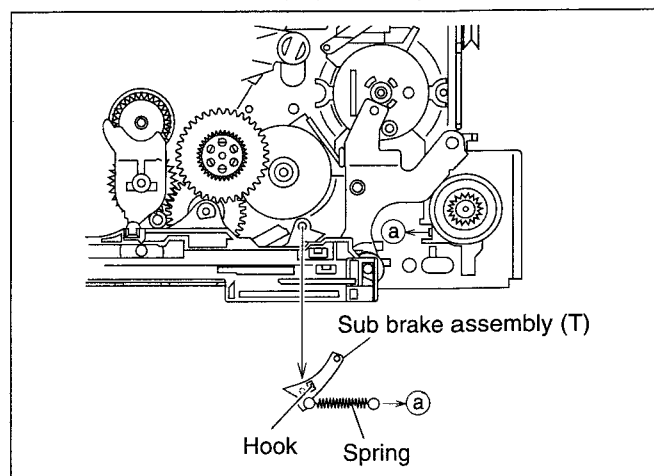


Fig. 2-3-17

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.18 Sub brake assembly (S)

① How to remove

- (1) Remove the two slit washers and remove the reel bracket. (Refer to Fig. 2-3-11 (1).)
- (2) Release the catch and release the tension band assembly from the reel disk (S). (Refer to Fig. 2-3-8.)
- (3) Take out the reel disk (S).
- (4) Remove the spring in the sub brake assembly (S), and take out the sub brake assembly.

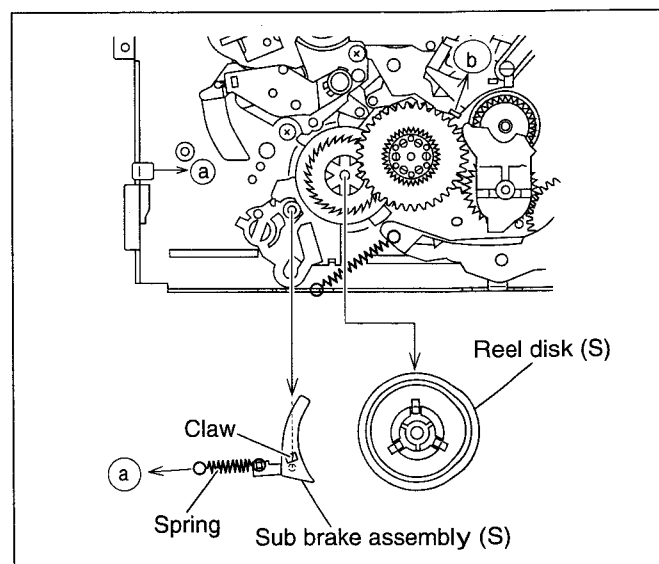


Fig. 2-3-18

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.19 Pole base assembly (S), (T)

① How to remove

- (1) Remove the head cleaner arm assembly. (Refer to chapter 2.3.6)
- (2) Remove the two screws ⑭.
- (3) Rotate the loading motor toward you, and shift the pole base assembly to near the loading end position. (Refer to Fig. 2-3-19.)
- (4) While releasing the hook of the pole base assembly from the guide rail and the pin of it from the loading arm, take out the pole base assembly.

Note:

- If the control plate is removed, shift the pole base assembly by hand.
- A spacer is inserted between the pole base of the supply side assembly and loading arm assembly. Care must always be exercised with this spacer.

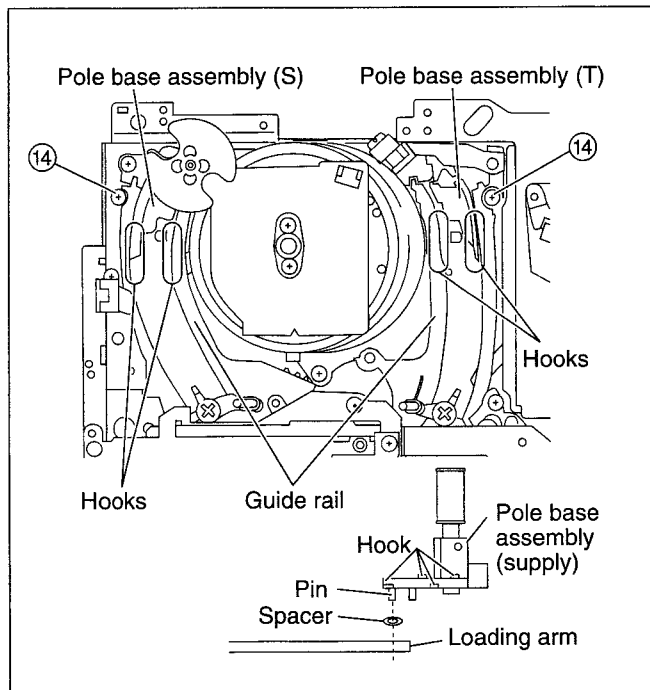


Fig. 2-3-19

② How to reassemble

- (1) Reassemble in the reverse order of removing. (Be careful not to touch the drum assembly)
- (2) After reassembling, clean the pole base assemblies (S), (T) and perform the following adjustments:
 - Tape transport check/adjustment (Refer to chapter 2.5.6)
 - Interchangeability adjustment (Refer to chapter 2.5)

2.3.20 Guide flange (S), (T)

① How to remove

- (1) Remove the two screws ⑮.
- (2) Take out the guide roller (S), (T) and guide flanges (S), (T).

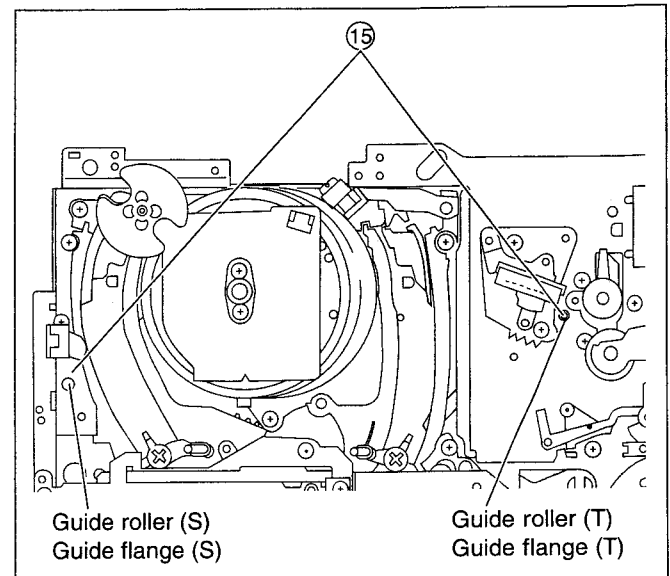


Fig. 2-3-20 (1)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) To make the tape transport adjustment easier after replacement, tighten the screw once until it reaches the end, then rotate it by the following value in the releasing direction to set the temporary height.
 - Guide flange (S)..... 2.5 turns
 - Guide flange (T)..... 1.5 turns

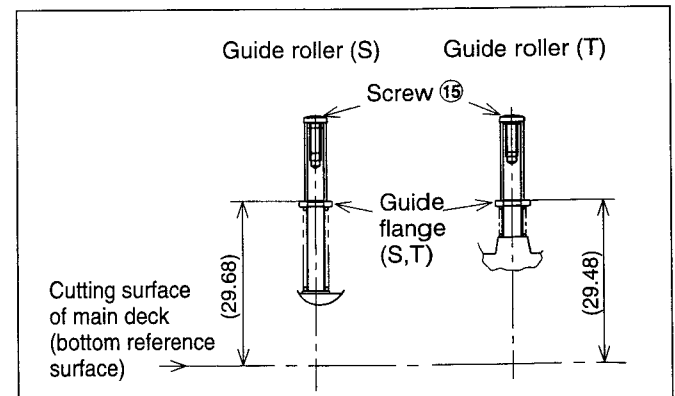


Fig. 2-3-20 (2)

- (3) After setting the temporary height, check the following adjustments:
 - Interchangeability adjustment (refer to Chapter 2.5)

2.3.21 Guide arm assembly

① How to remove

- (1) While releasing the hook remove the lid guide.
- (2) Remove the spring.
- (3) Remove the Guide arm assembly.

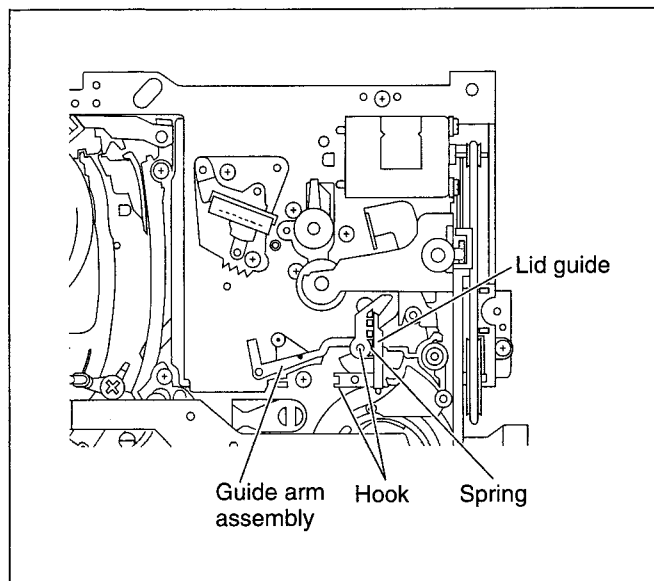


Fig. 2-3-21

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) After replacing the parts, clean the guide arm assembly and check the following adjustments:
 - Interchangeability adjustment (Refer to Chapter 2.5)

2.3.22 Loading motor, Motor pulley

① How to remove

- (1) Remove the belt from the motor pulley.
- (2) Remove the connector CN603 from the MAIN board and remove the wire from the loading motor.
- (3) Remove the two screws (16) and remove the loading motor.
- (4) De-solder the wire and remove it from the loading motor.

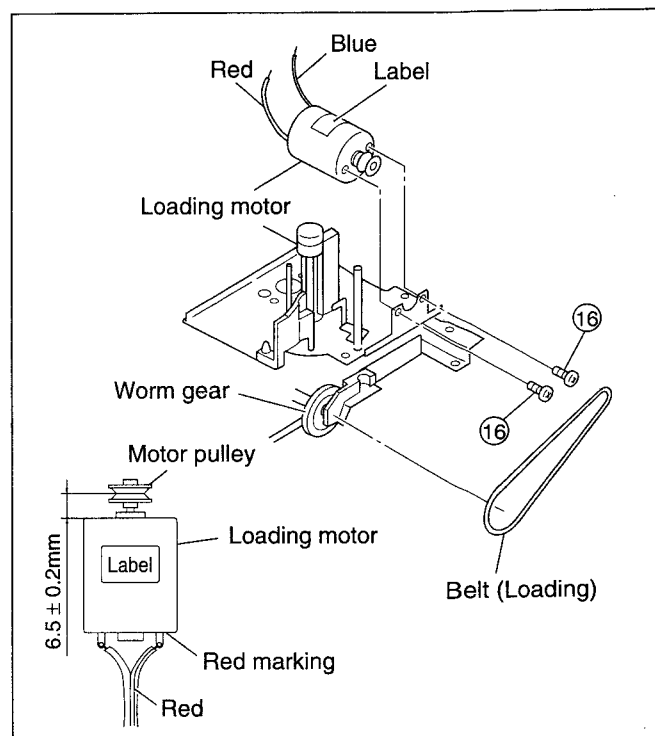


Fig. 2-3-22

② How to reassemble

- (1) Mount the loading motor and motor pulley as shown in Fig. 2-3-22.
- (2) Reassemble in the reverse order of removing.

2.3.23 Rotary encoder, Control cam

① How to remove

- (1) Remove the reek disk (T) and the control plate. (Refer to Chapter 2.3.11.)
- (2) Remove the slit washer and remove the lever assembly.

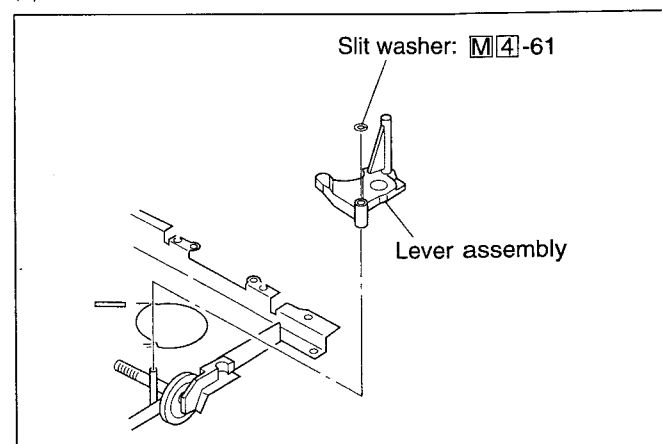


Fig. 2-3-23 (1)

- (3) While releasing the claw of pinch plate, slide it backwards.
- (4) While releasing the claw and rotating the guide arm assembly by clockwise, remove the control cam.

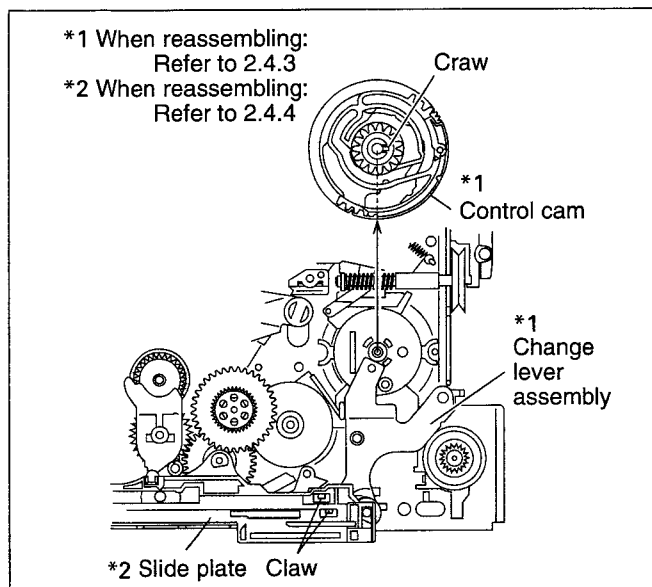


Fig. 2-3-23 (2)

- (4) Remove the slide plate. (Refer to Chapter 2.3.24.)
- (5) Take out the change lever assembly.
- (6) While releasing the craws at both sides, take out the rotary encoder.

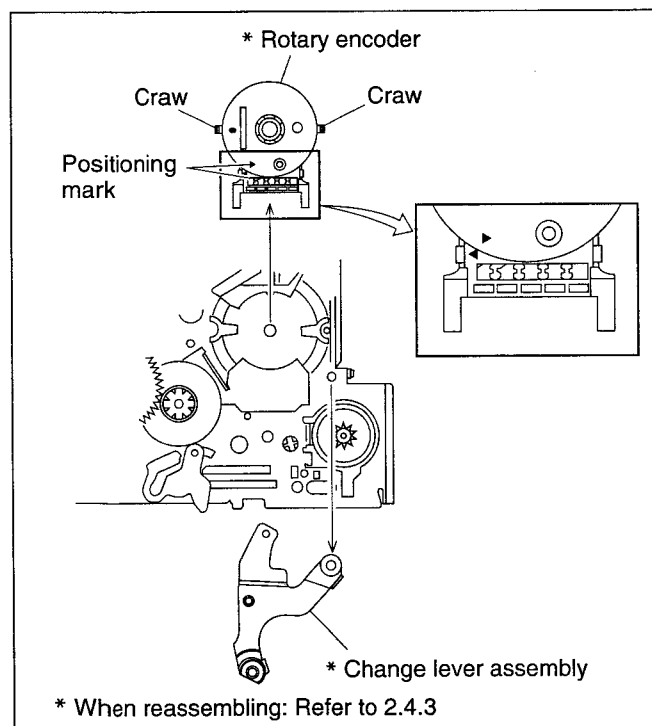


Fig. 2-3-23 (3)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) When mounting the rotary encoder, control cam or control plate, set the phases of each part appropriately by referring to the "How to mount the main parts". (Refer to Chapter 2.4.3 and Chapter 2.4.5.)

2.3.24 Slide plate, Main brake assembly (S), (T)

① How to remove

- (1) Remove the mechanism assembly. (Refer to Chapter 1. 1 "REMOVAL OF MAIN PARTS".)
- (2) Remove the sub brake assembly (T). (Refer to Chapter 2.3.17.)
- (3) Remove the sub brake assembly (S). (Refer to Chapter 2.3.18.)
- (4) Release the seven craws from the back of the mechanism assembly, and take out the slide plate from the front surface of the mechanism assembly.
- (5) Remove the slit disk (S). (Refer to Chapter 2.3.25.)
- (6) Take out the main brake assembly (T).
- (7) While rotating the main brake assembly, take it out.

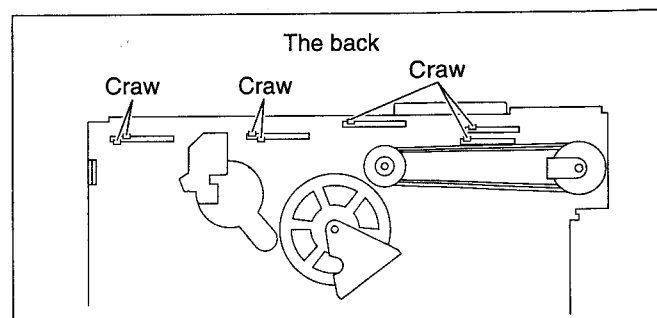


Fig. 2-3-24 (1)

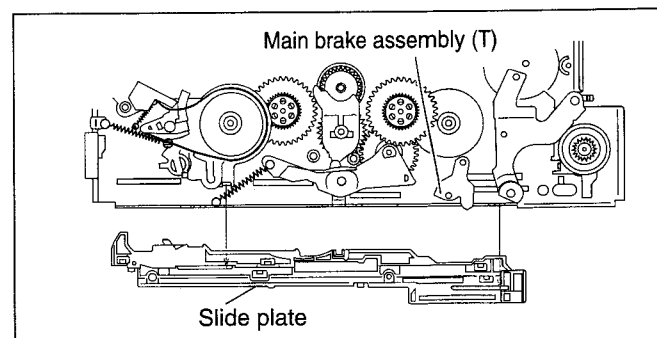


Fig. 2-3-24 (2)

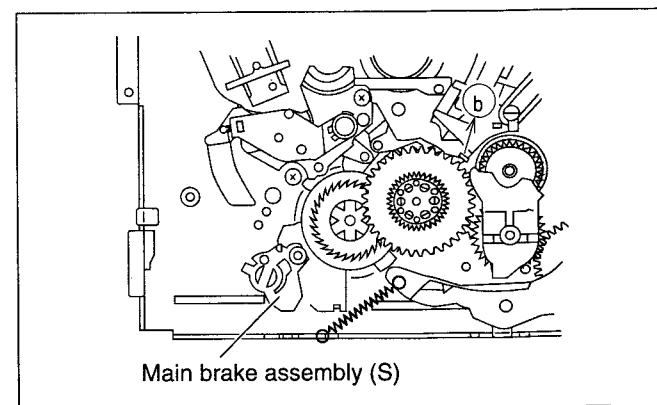


Fig. 2-3-24 (3)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) When mounting the slide plate, set the phases of each part appropriately by referring the "How to mount the main parts". (Refer to Chapter 2.4.4.)

2.3.25 Slit disk (S), (T)

① How to remove

- (1) Remove the reel disks (S), (T), control plate and clutch units (S), (T). (Refer to Chapter 2.3.11.)
- (2) While releasing the take up head and tension arm lever (See Fig. 2-3-26 (2)), take out the slit disks (S), (T).

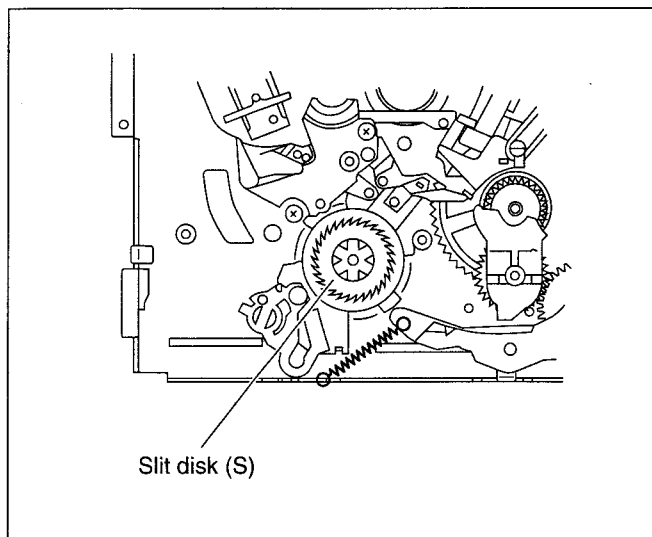


Fig. 2-3-25 (1)

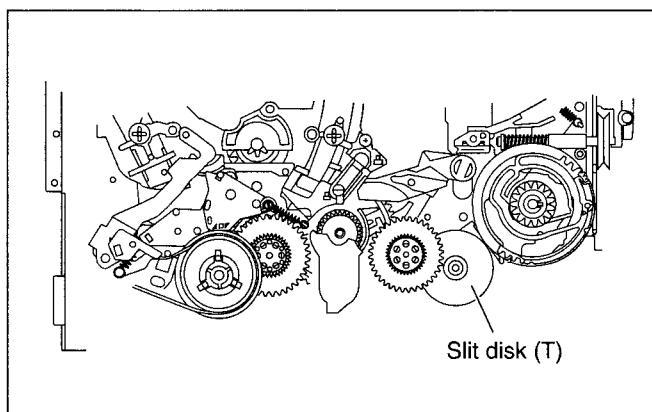


Fig. 2-3-25 (2)

② How to reassemble

- (1) Reassemble in the reverse order of removing.

2.3.26 Guide rail, Loading arm assembly

① How to remove

- (1) Remove the head cleaner assembly and inertia roller. (Refer to Chapter 2.3.3, 2.3.6.)
- (2) Remove the reel disk (S), control plate and clutch unit (S). (Refer to Chapter 2.3.11.)
- (3) Remove the slit washer and remove the tension arm .
- (4) Take out the take-up lever, tension arm lever and take-up head.
- (5) Remove the pole base assembly. (Refer to 2.3.19.)

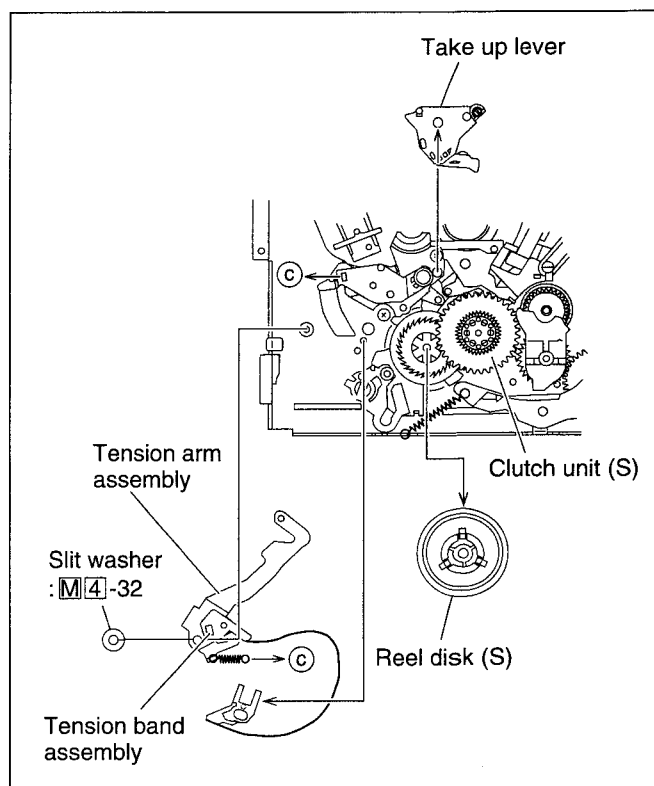


Fig. 2-3-26 (1)

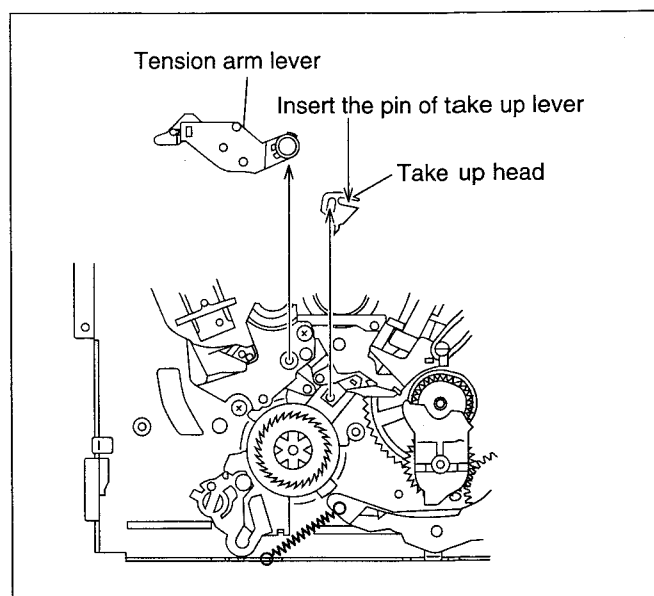


Fig. 2-3-26 (2)

- (6) Remove the five screws ⑰, and remove the guide rail by releasing the claw.
- (7) Take out the loading arm assemblies (S), (T).

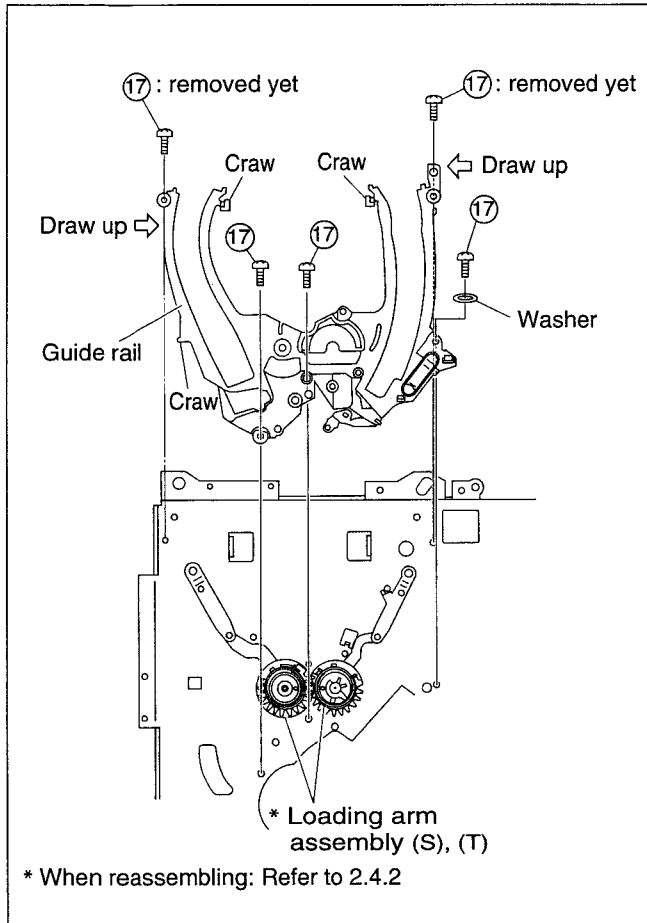


Fig. 2-3-26 (3)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
When mounting the Guide rails, draw them up to the drum assembly (See Fig. 2-3-26(3)).
- (2) When mounting the loading arm assembly and control plate, set the phases of each part appropriately by referring to the "How to mount the main parts". (Refer to Chapter 2.4.1 and 2.4.5.)
- (3) After replacing the parts, clean the pole base assemblies (S), (T), and check the following adjustments:
 - FM waveform linearity check/adjustment. (Refer to Chapter 2.5.1)
 - Tape transport check/adjustment. (Refer to Chapter 2.5.7.)

2.3.27 Pulley assembly

① How to remove

- (1) Remove the clutch units (S), (T), control plate and reel disks (S), (T). (Refer to Chapter 2.3.11.)
- (2) Remove the idler assembly. (Refer to Chapter 2.3.16.)
- (3) Remove the pole base assembly and guide rail. (Refer to Chapter 2.3.19 and 2.3.26.)
- (4) Remove the screw ⑰ and remove the idler lever.

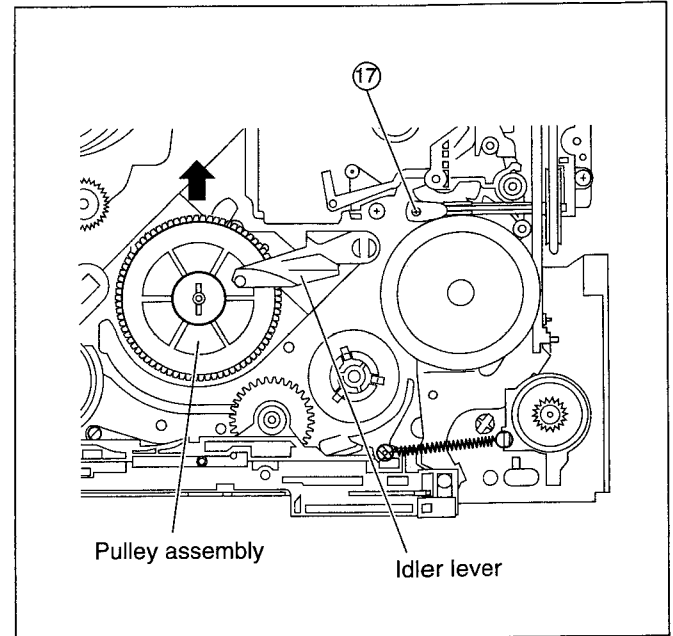


Fig. 2-3-27

- (5) Remove the belt (capstan) from the pulley assembly. (Refer to Fig. 2-3-15.)
- (6) Take out the pulley assembly.

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) When mounting the guide rail and control plate, set the phases of each part appropriately by referring to the "How to mount the main parts". (Refer to Chapter 2.4.2 and 2.4.5.)

2.3.28 Worm gear assembly

① How to remove

- (1) Remove the control plate. (Refer to Chapter 2.3.11.)
- (2) Remove the control cam. (Refer to Chapter 2.3.23.)
- (3) Remove the guide arm assembly. (Refer to Chapter 2.3.21.)
- (4) Remove the pinch roller arm assembly. (Refer to Chapter 2.3.7.)
- (5) While releasing the craws, remove the pinch plate.

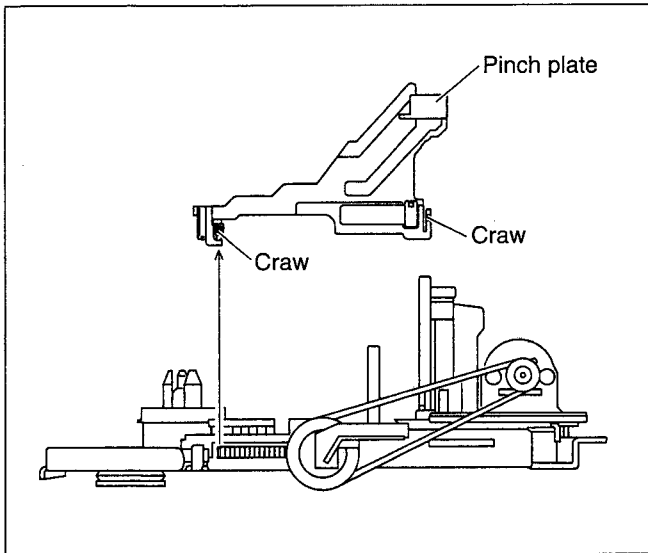


Fig. 2-3-28 (1)

- (6) Remove the worm gear assembly by lifting the right side of the worm gear assembly.

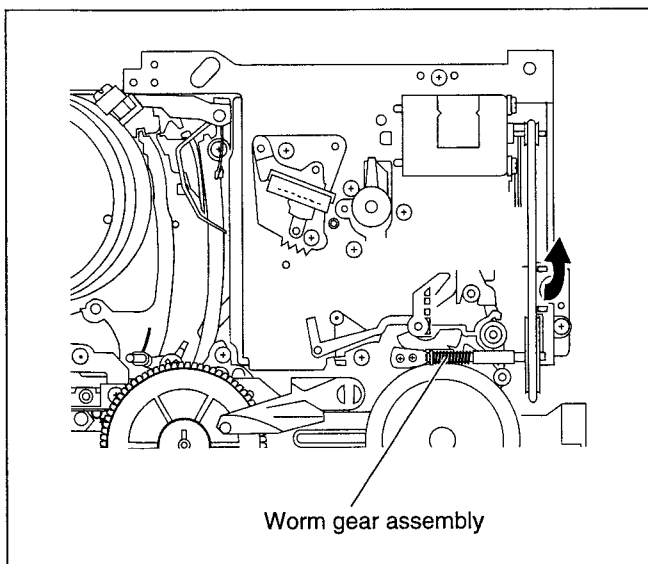


Fig. 2-3-28 (2)

② How to reassemble

- (1) Reassemble in the reverse order of removing.
- (2) When mounting the control plate and control cam, set the phases of each part appropriately by referring to the "How to mount the main parts". (Refer to Chapter 2.4.3 and 2.4.5.)

2.4 HOW TO MOUNT THE MAIN PARTS (Mechanism Phase Adjustment)

2.4.1 Before parts assembling

The mechanism used in this unit has a close relationship between the rotary encoder and the mechanism control circuit. Therefore, the relationship between the rotary encoder and the control cam determines all the operations of the mechanism parts including the slide plate, loading arm assembly, control plate and brake. If these parts are not mounted at the correct positions, loading/unloading operation will not be performed. Mounting the main parts (mechanism phase adjustment) must be performed at the mechanism assembly position in the same way as in the previous chapter.

2.4.2 Loading arm assembly (S), (T)

- (1) Mount the loading arm assembly (S) and the loading arm assembly (T) so that the positioning marks on both gears come face to face with each other.
- (2) After mounting the guide rail and setting the pole base assembly at the tip of the arm, perform the unloading operation so that the pole base assembly returns to the forefront position.
- (3) Mount the peripheral parts around the guide rail. (Refer to Chapter 2.3.26.)

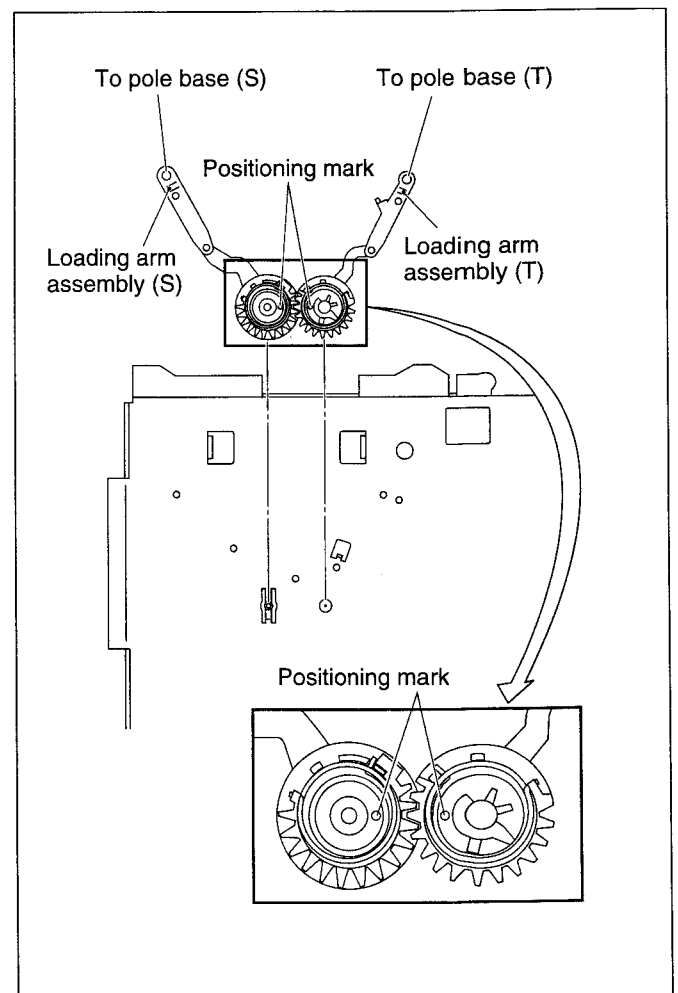


Fig. 2-4-1

2.4.3 Rotary encoder, Change lever, Control cam

- (1) When mounting the rotary encoder, apply the triangular positioning marks of the rotary encoder to those on the mounting shaft, and insert it until the catches are locked.
- (2) When mounting the change lever, set it so that the positioning holes of the change lever are matched with those on the main deck.
- (3) When mounting the control cam, while releasing the capstan brake assembly by the arrow, set it so that the positioning holes of the control cam are matched with those on the main deck.

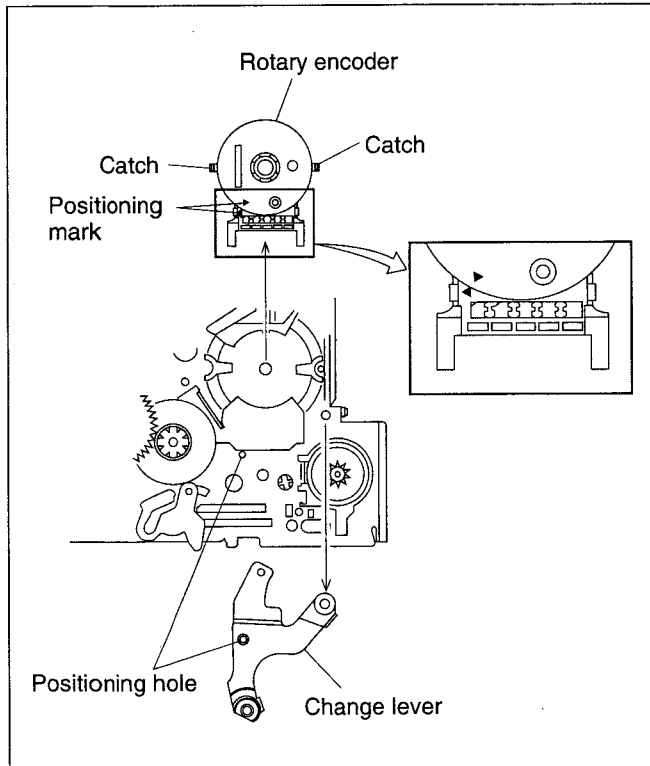


Fig. 2-4-2

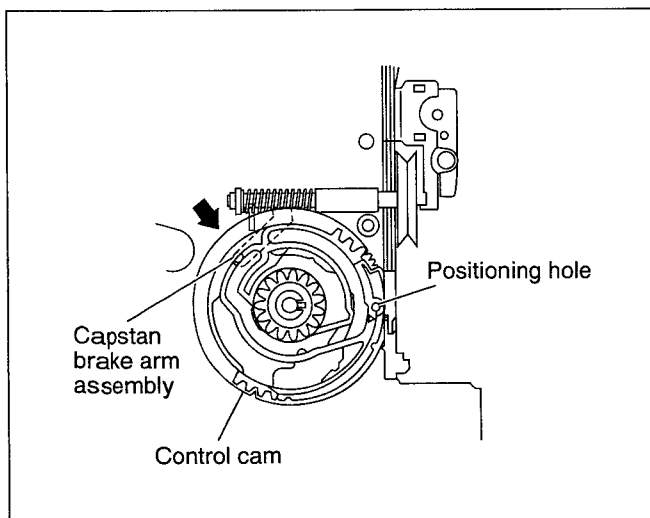


Fig. 2-4-3

2.4.4 Slide plate

- (1) Lower the main brake assemblies (S), (T) until they reach the limit and slide the change arm assembly by the arrow, mount them so that the positioning holes of the slide plate match the holes on the main deck assembly.

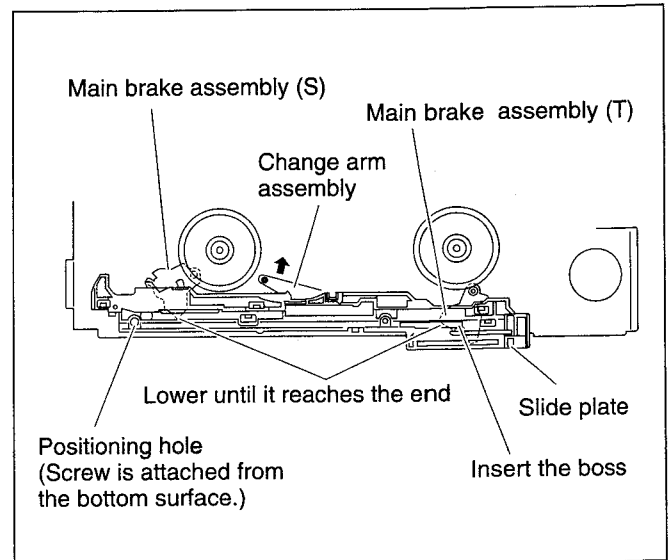


Fig. 2-4-4

2.4.5 Control plate

- (1) Mount the control plate so that the two positioning holes of the control plate match the holes on the main deck assembly and the positioning holes of the take-up lever.
- (2) After mounting the control plate, secure it with the slit washer and the control bracket.

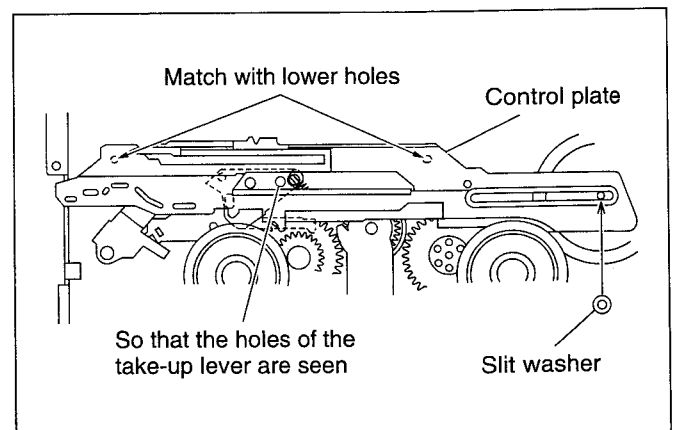


Fig. 2-4-5

2.5 INTERCHANGEABILITY ADJUSTMENT

Notes:

- The Interchangeability adjustment is very important. After replacing the A/C head assembly, drum assembly or tape transport parts, the Interchangeability adjustment must be performed.

- In the Interchangeability adjustment, prepare an extra cassette tape (for recording/playback) so as not to damage the alignment tape, and perform the tape running test as a first step. (Refer to Chapter 2.5.7)
- Set the slope of the oscilloscope to $\ominus$ when playing back the MHPE tape and set it to $\oplus$ when playing back the MHPE-L tape.

2.5.1 FM waveform linearity check/adjustment

- (1) Connect the oscilloscope to TP6 (PB FM) on the PRE/REC board assembly and connect the external sync output to TP11 (D. FF) on the PRE/REC board assembly.
- (2) Play back the alignment tape MHPE to observe the FM waveform.
- (3) During playback, press the tracking buttons (+, -) simultaneously to enter the tracking center position.
- (4) By adjusting the tracking, check that there is no apparent level drop in the FM waveform and that the waveform varies totally in parallel and with linearity. If required, perform the following adjustments. (Fig. 2-5-1)
- (5) Using the hexagonal wrench (1.25 mm), lightly release the set screw at the bottom of the pole base assembly. (Pay attention not to release too much.) (Fig. 2-5-2)
- (6) During playback, press the tracking button (+, -) to reduce the FM waveform. If a drop in level is observed at the left-hand side as shown in Fig. 2-5-3, adjust the guide roller on the pole base assembly (S) using the roller driver (PTU94002) so that a linear FM waveform is obtained. If a drop in level is observed at the right-hand side, rotate the guide roller on the pole base assembly (T) for adjustment. (Fig. 2-5-3)
- (7) Play back the MHPE-L alignment tape and check that the FM waveform varies totally in parallel and with linearity by adjusting the tracking. If required, fine-adjust the guide rollers on the pole base assemblies (S), (T).
- (8) After adjusting, tighten the set screw at the bottom of the pole base assembly. (Pay attention not to tighten excessively.)
- (9) After tightening the set screw, play back the alignment tapes MHPE. MHPE-L to check the FM waveform varies as shown in the optimum waveform changing examples.
- (10) When the alignment tape MHPE is played back after being ejected and reloaded or soon after the search reverse mode is operated, check that the FM waveform stabilizes within 2 sec. of appearing. If it takes more than 2 sec., check which side (right or left) of the FM waveform is unstable and check the following items.

A drop in level is observed at the left-hand side:

Check the guide roller (S) of the Pole base assembly

A drop in level is observed at the right-hand side:

Check the guide roller (T) of the Pole base assembly, the height of the guide arm assembly, and the tilt of A/C head

- (11) Perform the tape transport system. (Refer to Chapter 2.5.7)

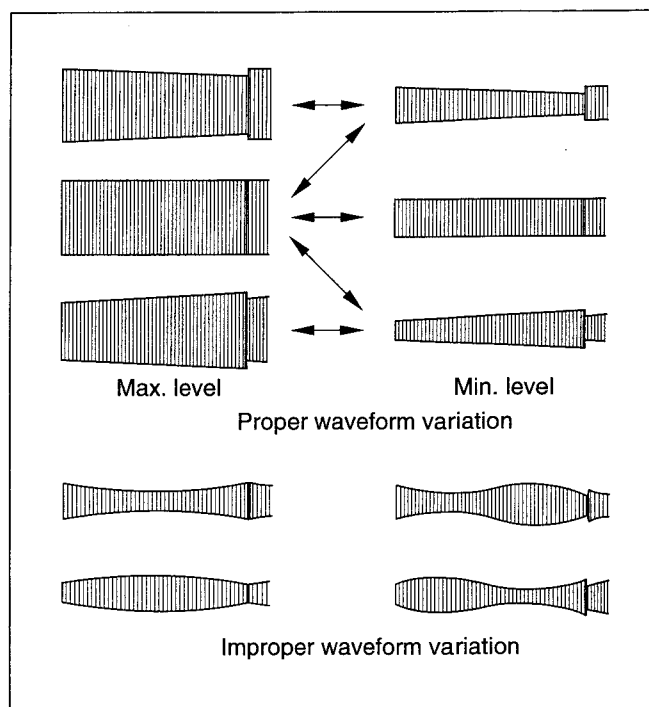


Fig. 2-5-1

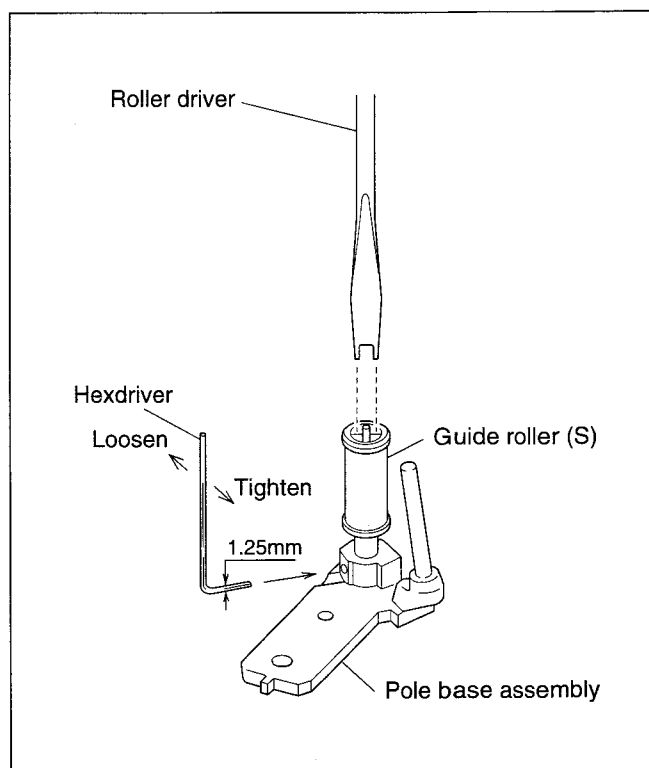


Fig. 2-5-2

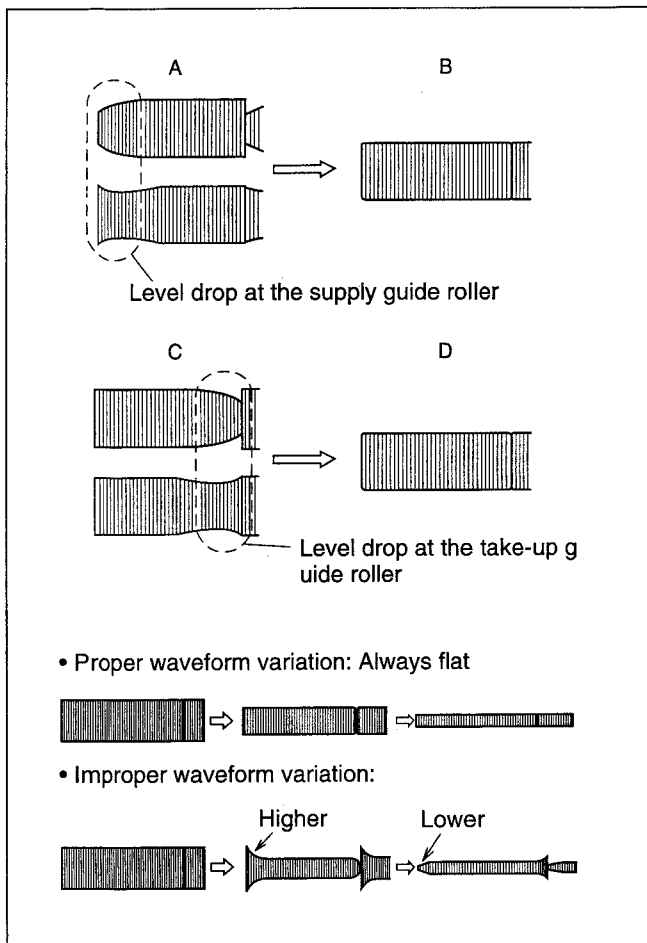


Fig. 2-5-3

2.5.2 A/C head assembly height, Azimuth check/adjustment

Note: • To make adjustment easier, set the A/C head assembly to a temporary height before hand. (Refer to Fig. 2-3-13(3).)

- Tilt (forward bent) adjustment
- (1) Adjust the screw ① with the parallel check plate (PGJ05035) so that the tilt of the A/C head assembly is 0.05 mm.
 - (2) Confirm that tape is neither damaged nor wrinkled around the lower flange of the guide roller (T). If tape is wrinkled, adjust the tilt of the A/C head between 0 to 0.05 mm. An increase in the tilt of the A/C vertically will result in reduction in wrinkle occurrence on tape. If tape wrinkle occurs even then, carry out a fine adjustment to the height of the guide roller (T). (Refer to Chapter 2.5.7)
- Height and azimuth adjustment
- (1) Connect the CH-1 of the oscilloscope to Audio Out terminal and connect the CH-2 to TP401 (CTL P: 5I) on the main PC board, then observe the waveform at both channels with ALT mode.
 - (2) Play back the MHPE alignment tape, and adjust the waveform of Audio Out and control pulse are maximum values by rotating the screws ①, ② and ③ small and equal increments. <Height adjustment>

- (3) Then rotate the screw ② to adjust so that both the audio and control pulse waveforms become maximum. <Azimuth adjustment>
- (4) Repeat the above steps No. (2) and No. (3) alternately for more precise adjustment.
- (5) Confirm that the tilt of the A/C head assembly is 0.05 mm with the parallel check plate. If it is out of specification, repeat all the steps of this section.
- (6) Perform the tape transport system. (Refer to Chapter 2.5.7)

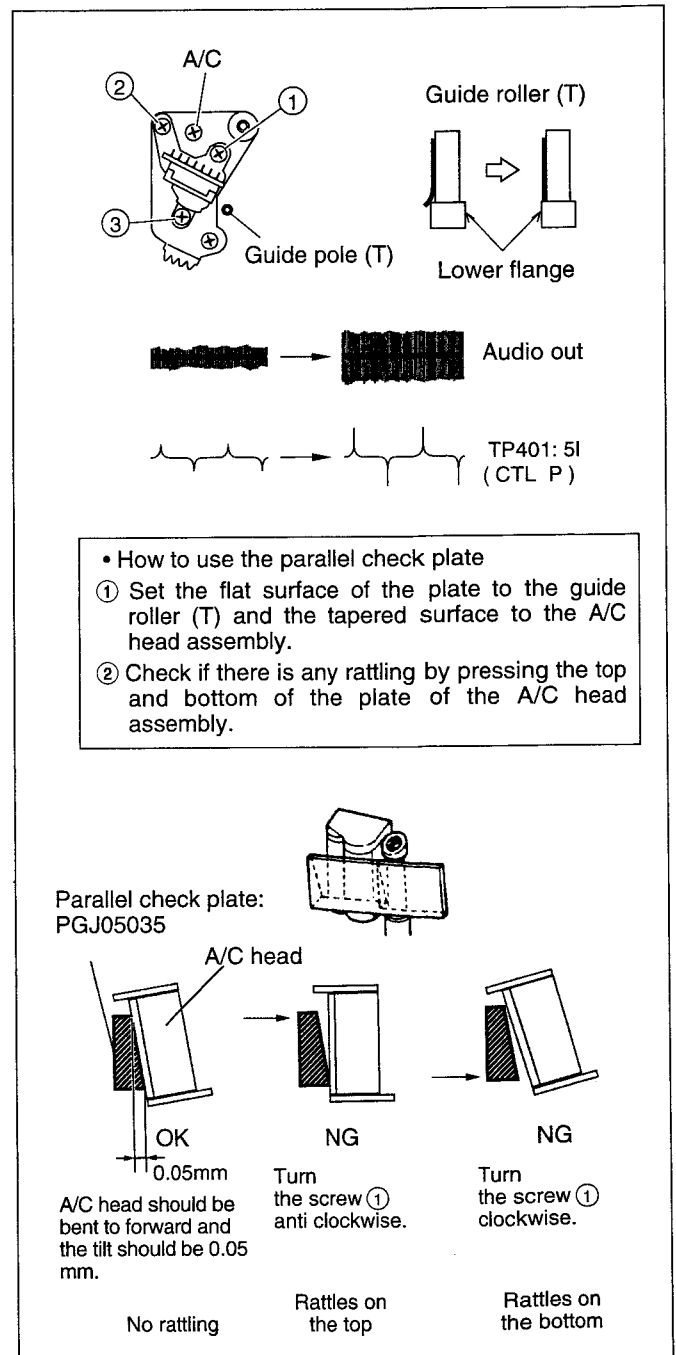


Fig. 2-5-4

2.5.3 A/C (Audio Control) head phase (X value) check/adjustment

- (1) Connect the oscilloscope to TP6 (PB FM) on the PRE/REC board and Audio Out terminal, and connect the external sync to TP11 (D. FF) on the PRE/REC board.
- (2) Play back the alignment tape MBPE-X to observe the FM waveform and audio signal.
- (3) During playback, press the tracking buttons (+, -) simultaneously to enter the tracking center position.
- (4) Loosen the screws ④ and ⑤ and set the A/C head position bit (PTU94010) as shown in Fig. 2-5-5.
- (5) Rotate the A/C head position bit to adjust the A/C head position so that the FM waveform becomes maximum and the "no-recorded" portion between the FM waveform and the audio signal is within 3 fields.
- (6) Play back the alignment tape MHPE and observe FM waveform.
- (7) During playback, press the tracking buttons (+, -) simultaneously to enter the tracking center position.
- (8) By adjusting the tracking, check that the FM waveform becomes maximum at the tracking center position.
(The FM level at the tracking center position should be -1 dB or more against the maximum FM level.)
- (9) If the maximum waveform is not obtained, rotate the A/C head position bit to adjust the audio control head position so that the maximum FM waveform is observed first time.
- (10) Play back the alignment tape MHPE-L and observe FM waveform.

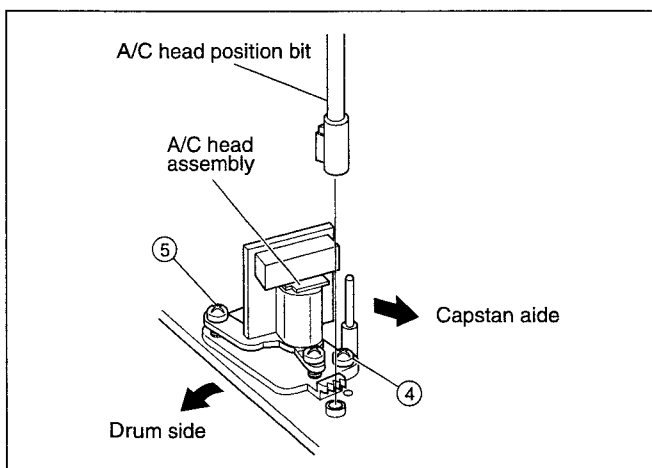
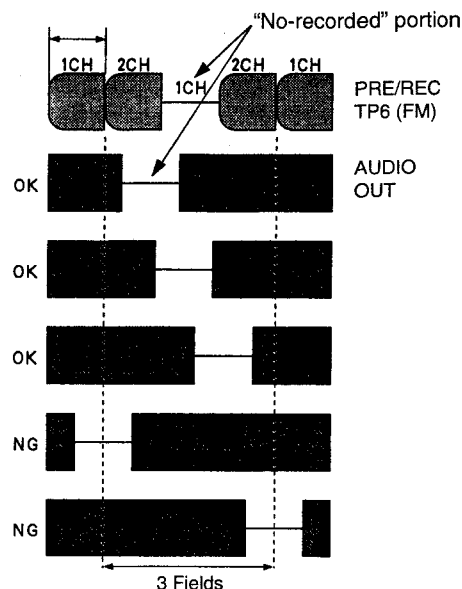


Fig. 2-5-5

- (11) During playback, press the tracking buttons (+, -) simultaneously to enter the tracking center position.
- (12) By adjusting the tracking, check that the FM waveform becomes maximum at the tracking center position.
(The FM level at the tracking center position should be -2 dB or more against the maximum FM level.)
- (13) If the maximum waveform is not obtained, rotate the A/C head position bit to adjust the audio control head position so that the maximum FM waveform is observed first time.
- (14) Repeat the above step (6) - (13) to meet specifications of step (8) and (12).
- (15) Tighten the screws ④ and ⑤.
- (16) Confirm the azimuth of the A/C head. (Refer to Chapter 2.5.2)

The FM waveform becomes maximum and the "no-recorded" portion between the FM waveform and the audio signal is within 3 fields.



• Manner of external synchronization:

- ① Set the oscilloscope's time sweep to 10 msec.
- ② In the condition that the oscilloscope is synchronized with D.F.F signal, turn the oscilloscope's HOLD OFF control in the direction of (+) to stabilize non-recorded portion.

Fig. 2-5-6

Note: How to convert dB value

When set the maximum FM level to 5.0 scale divisions on the oscilloscope,
 more than -1dB: more than 4.5 scale divisions
 more than -2dB: more than 4.0 scale divisions

2.5.4 LP auto tracking check

- (1) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (2) Select the "ADJUST MODE" with pressing the **SELECT** button and press the **SET** button. "ADJUST MODE SELECT" menu comes up.
- (3) Select the "SERVO MODE" with pressing the **SELECT** button and press the **SET** button.
- (4) When the MHPE-L alignment tape is played back, "→" mark appears at the beginning of "LP TRACKING" and the VTR enters the LP TRACKING check mode at the same time.
- (5) Press the **TRACKING + (SET)** and **TRACKING - (SELECT)** buttons together to "AT OFF" on monitor screen and then, press them one more time to "AT ON".
The front panel display "AT" and LP tracking check mode is activated.
- (6) If the monitor screen change to "AT OFF" and the front panel undisplay "AT", the X-value is adjusted correctly.
If the cassette tape is ejected, X-value have to be readjusted.
- (7) Press the **MENU** button to quit the LP tracking check mode.

2.5.5 Tension arm position check/adjustment

① Temporary adjustment of mounting position

- (1) Rotate the loading motor manually to set to the loading-end position.
- (2) Check that the tip of the tension arm comes to the hole "A" on the main deck.
- (3) If the tip of the tension arm does not come to the above position (2), loosen the screw ⑥ slightly and rotate the adjustment pin.

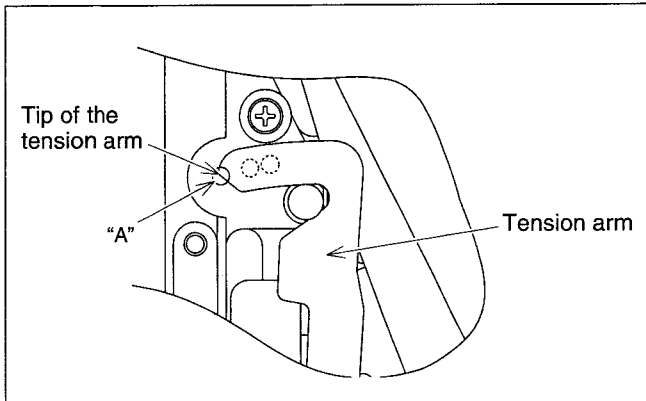


Fig. 2-5-7 (1)

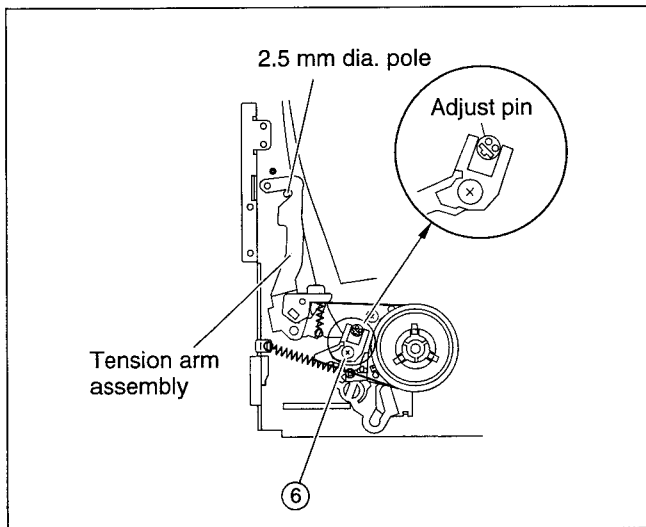


Fig. 2-5-7 (2)

② Back torque check/adjustment

- (1) Play back the cassette torque meter PUJ42881, and check that the torque value at the supply (left) side is $3.68 \pm 0.74 \times 10^{-3} \text{ N}\cdot\text{m}$ (indication value: 30 – 45 g·cm).
- (2) If the indication is not of the above value, perform adjustments in the following manner:
 - 1) Remove the cassette torque meter.
 - 2) Loosen the screw (6) slightly and rotate the adjustment pin.
(Turn the adjustment pin clockwise to increase the torque, and counterclockwise to decrease it.)
 - 3) Check the above value (1) again, and repeat the adjustments until the specified value is obtained.
 - 4) Perform the tape transport system check.

2.5.6 Take-up torque check

- (1) Play back the cassette torque meter (PUJ42881), and check that the torque value at the take-up (right) side is $7.84 + 1.96/-2.94 \times 10^{-3} \text{ N}\cdot\text{m}$ (indication value: 80 +20/-30 g·cm).
- (2) If not meet the specification, replace the clutch unit (T) and confirm this section again.

2.5.7 Tape transport system check/adjustment

Note: • When the tape transport mechanism parts shown in the Fig. below are removed or replaced, the tape transport system check/adjustment must be performed.

① Tape transport system check

- (1) Play back the beginning portion of T-180 tape.
- (2) Change the playback mode in the following order:
PLAY → SEARCH REV → SEARCH FWD → PLAY
- (3) Check that creasing or damage to the tape does not occur at the SP/TU guide rollers (pole base assembly), guide rollers (S, T) or at the guide arm assembly.
- (4) Playback the end portion of T-180 tape. Check the above manner (2). (3) again.

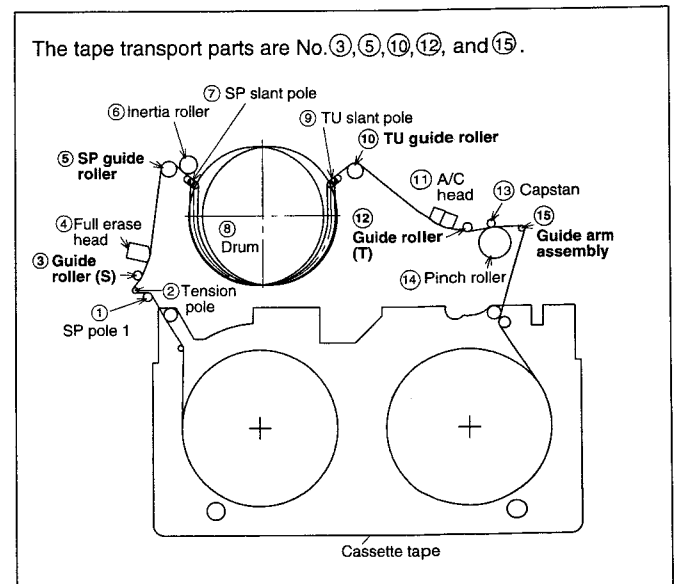


Fig. 2-5-8

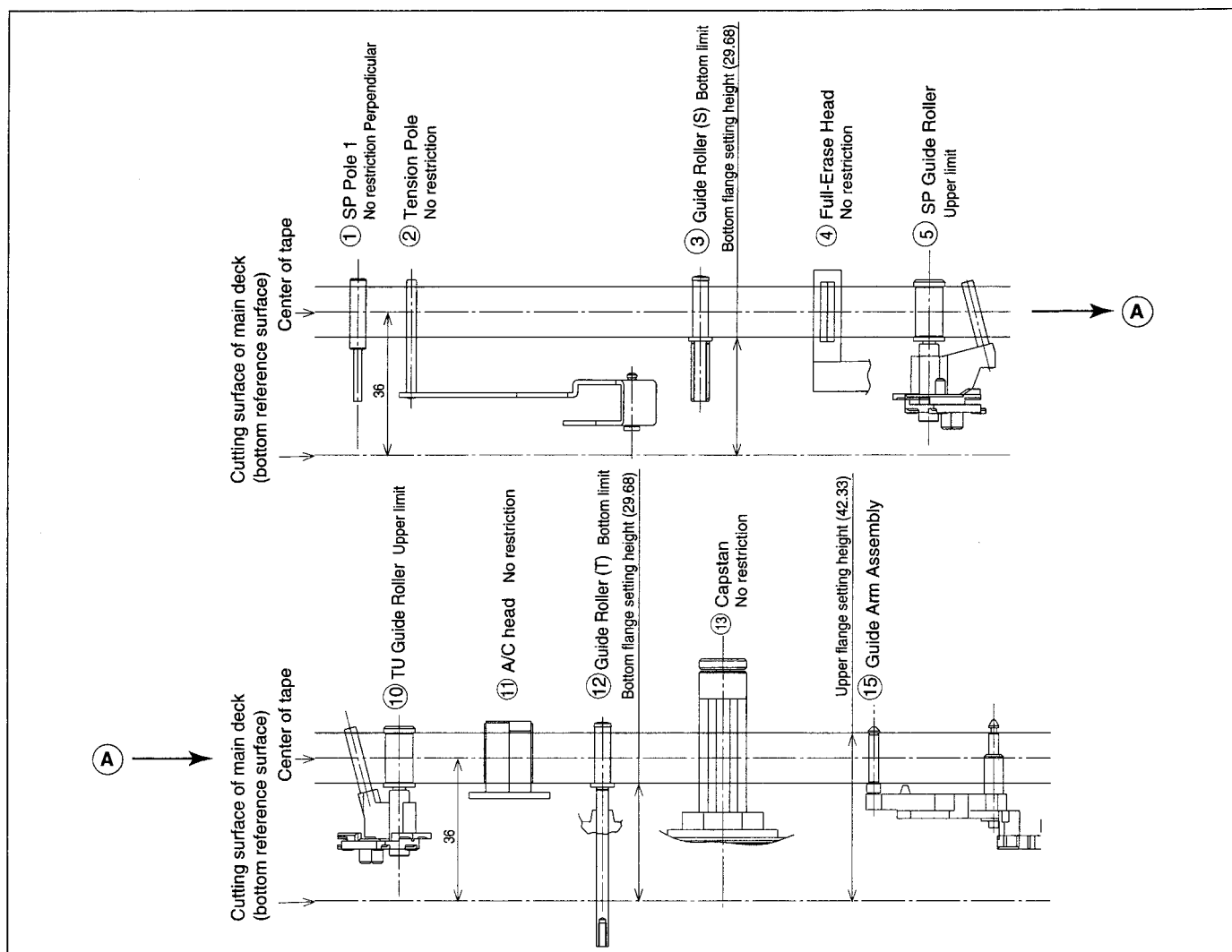


Fig. 2-5-9

② Tape transport system adjustment

(1) Guide roller (S), (T)

- (a) If creasing of the tape or other tape damage occurs at the guide roller (S) or (T), rotate the screw (7)/(8) in the tightening direction to lower the height of the guide roller (S)/(T). At this time, be sure not to rotate the screw for more than 1/2 turn.

To set the reference height of the guide rollers, tighten the screw once until it reaches the end, then rotate it by the following value in the releasing direction.

- Guide roller (S): 2.5 turns
- Guide roller (T): 1.5 turns

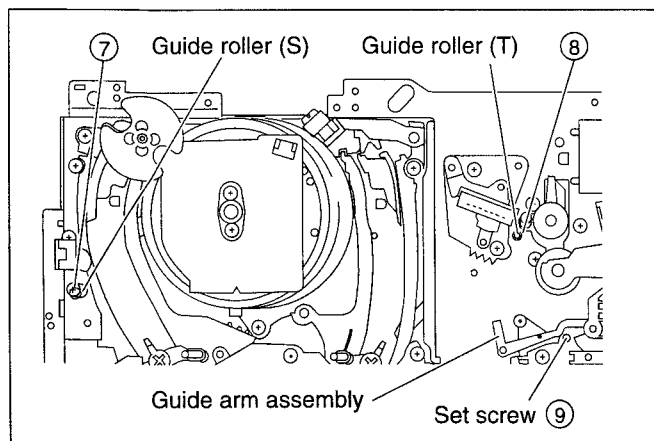


Fig. 2-5-10

(2) Guide arm assembly

- (a) If creasing of the tape or other tape damage occurs at the flange on the guide arm assembly, adjust as follows:
- (b) Eject the tape.
- (c) Rotate the set screw (9) clockwise to raise the height of the guide arm assembly. (Refer to Fig. 2-5-10)
- (d) Play back the tape, and repeat this procedure until the tape creasing or tape damage does not occur. If tape is twisted between the capstan and the guide arm assembly, fine adjust the height of the guide arm assembly.
- (3) When adjusting the tape transport parts, be sure to perform the compatibility adjustment again. (Refer to Chapter 2.5.1, 2.5.2 and 2.5.3.)

SECTION 3 ELECTRICAL ADJUSTMENT

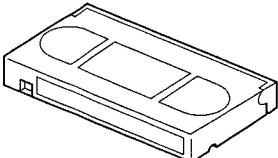
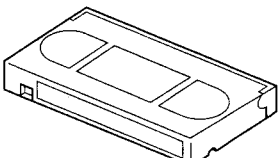
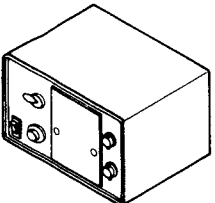
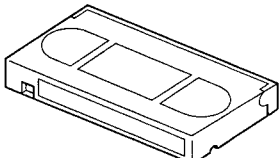
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

- ① Color television or monitor
- ② Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- ③ Frequency counter
- ④ Digital voltmeter
- ⑤ Signal generator: RF/IF sweep/maker
- ⑥ Signal generator: EBU color bars (Y/C, composite)
Pulse & ber
- ⑦ Recording tape

3.1.2 Required adjustment tools

Alignment tape (SP stairstep) MHPE	Alignment tape (S-VHS SP/LP color bar) MH-2H
	
Carrier checker PGJ05008-2	Alignment tape (SP color bar) MHVE-2
	

3.1.3 About board address

Consisting of numeral and alphabet following the symbol of a measurement point and a adjustment part indicates a section of the specified board where theirs are located.

3.1.4 Signals required for video system adjustment

- Color bars signal (composite and Y/C)
(color level; 75%)

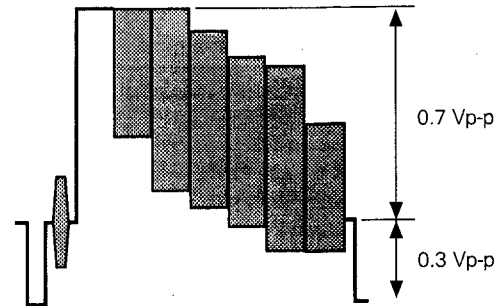
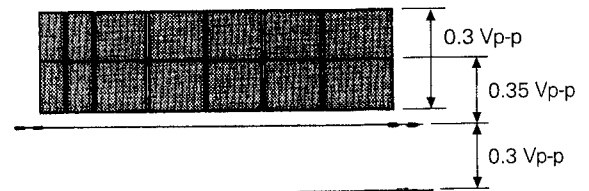


Fig.3-1-1 Color bars signal waveform

To be used for Y/C level adjustment.

All color levels appearing in this chapter are measured or to be measured with this color bar signal. Make sure not to use other color bar signals such as of 100% in the color level, since it leads to different and wrong measurement results.

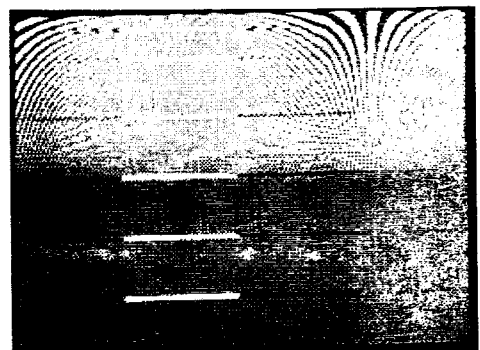
- Video sweep signal (100k - 5MHz)



To be used for frequency response adjustment (VIDEO EQ).

To supply this signal through the LINE IN terminal, make sure to use a sweep signal having a good characteristic in the H correlation in order to avoid erroneous operation of comb filters.

For a reference, a signal having a good H correlation shows such a clear pattern as neighboring black and white lines are the same in the width and the interval on the monitor as shown in the figure below.



3.2 SWITCHING REGULATOR CIRCUIT

Note: • Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.

3.2.1 5V DC output voltage

Signal	• Color bar
Mode	• REC : SP
Equipment	• Digital voltmeter
Measurement point	• TP801 (SWD 5V) : 3B
Adjustment part	• VR801 (SWD 5V) : 2B
Specification	• $5.22 \pm 0.10V$ DC

- (1) Connect a digital voltmeter to TP801 and TP802 : 3B GND.
- (2) Adjust VR801 for $5.22 \pm 0.10V$ DC.

3.3 SERVO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

• This adjustment use the service mode. Refer to "1.5 Service mode" about detail of the service mode.

3.3.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep
Mode	• PB, Automatic tracking: OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP11 (DRUM FF), [PRE/REC BOARD]
Specification	• $8.5 \pm 0.5H$

- (1) Play back the alignment tape, MHPE and set to "AT OFF" mode by pressing "+" and "-" tracking buttons simultaneously.
- (2) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (3) Select the "ADJUST MODE" with pressing the **SELECT** button and press the **SET** button. "ADJUST MODE SELECT" menu comes up.
- (4) Select the "SERVO MODE" with pressing the **SELECT** button and press the **SET** button.
- (5) Play back the alignment tape MHPE, then "→" appears left of the item "SW POINT ADJ" and enter the auto adjustment mode.
- (6) Adjust the tracking "+" and "-" buttons so that the switching point is $8.5 \pm 0.5 H$ before V. sync.
- (7) Depress the **STOP** button to record the adjustment value in the memory with indication by "*" mark at the beginning item.

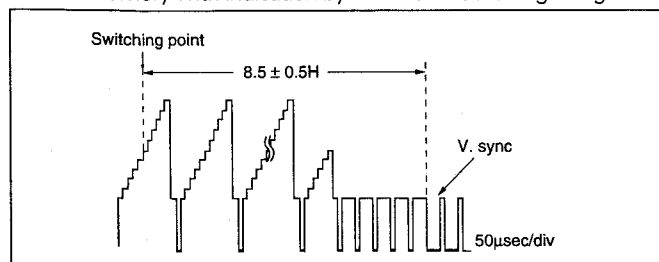


Fig.3-3-1 PB switching point

3.3.2 Slow tracking preset

Signal	• Color bar
Mode	• SP/LP, REC → PB(SLOW) Automatic tracking OFF
Equipment	• TV-Monitor
Specification	• Minimum noise

- (1) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (2) Select the "ADJUST MODE" with pressing the **SELECT** button and press the **SET** button. "ADJUST MODE SELECT" menu comes up.
- (3) Select the "SERVO MODE" with pressing the **SELECT** button and press the **SET** button.
- (4) Record a color bar signal in the SP mode.
- (5) Playback recorded signal on the FWD slow mode (press the **PAUSE** button more than 2 seconds).
- (6) "→" appears left of the item "SP FWD SLOW" and enter the adjustment mode.
- (7) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing "+" or "-" tracking buttons.
- (8) Depress the **STOP** button to record the adjustment value in the memory with indication by "*" mark at the beginning item.
- (9) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
- (10) Repeat steps (5) to (9) in REV slow mode (press the **PAUSE** button more than 2 seconds in REV search mode).
- (11) Repeat steps (4) to (10) in LP mode.

Note: "*" mark does not disappear until the main power turns off.

3.4 VIDEO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

- VIDEO circuit adjustments are performed by the EVR system by use of the service mode.
- S-INPUT means Y/C separated video signal in the chart.
- Set the **EDIT SELECT** to OFF position.
- To select either S-VHS or VHS mode automatically, set the menu switch No. 100 S-VHS SELECT to AUTO (1) and insert a cassette tape.
- Set the **TBC** switch to OFF.

• How to setting the EVR adjustment

- (1) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (2) Select the "ADJUST MODE SELECT" menu comes up.
- (3) Select the "EVR MODE" with pressing the **SELECT** button and press the **SET** button more than 2 seconds.
- (4) Set the "EVR No." with pressing the **C.RESET** button.

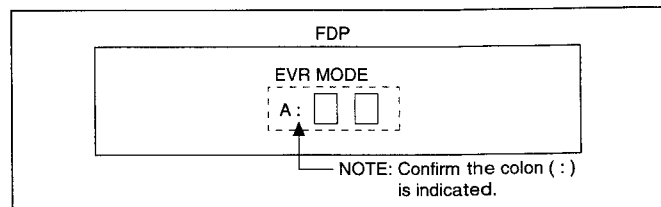


Fig.3-4-1 EVR mode

3.4.1 EE Y level of S-INPUT

Signal	•Color bar •S-INPUT
Mode	•EE •S-VHS •SP
Equipment	•Oscilloscope
Measurement point	•Y/C Y OUT TERMINAL
EVR mode	•A : 11
Specification	• $1.00 \pm 0.03\text{Vp-p}$ (75 Ω terminated)

- (1) Connect an oscilloscope to Y/C Y OUT TERMINAL.
- (2) Adjust **SET** or **SELECT** button for $1.00 \pm 0.03\text{Vp-p}$.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized in video unit IC6.

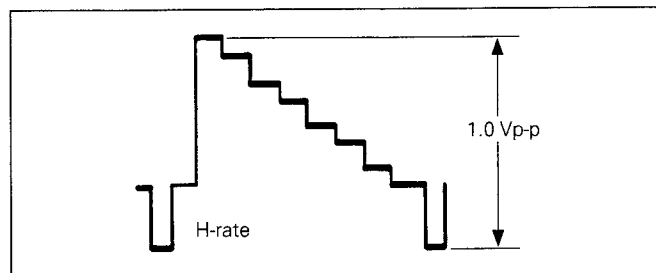


Fig. 3-4-2 AGC Y level

3.4.2 Digital I/O level (EE Y level of LINE-INPUT)

Signal	•Color bar
Mode	•EE •S-VHS •SP
Equipment	•Oscilloscope
Measurement point	•TP101[DIGITAL SUB] (Y/V To SEP) •CN205 - pin6 (SEPAD Y1)
Adjustment part	•R68 (DIGITAL I/O LEVEL) : 5B [Y/C SEP board]
Specification	•Equal level

- (1) Remove the DIGITAL SUB board from chassis and tip the Y/C SEP board together DIGITAL SUB board.
- (2) Connect the channel (CH-1) of a dual trace oscilloscope to CN206 - pin4 and the other channel (CH-2) to CN206 - pin6 on the MAIN board.
- (3) Set the oscilloscope for DUAL mode, and overlap the waveform.
- (4) Adjust R68 for equal Y levels.

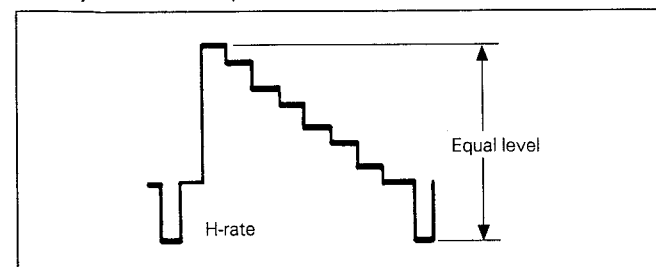


Fig. 3-4-3 Digital I/O level

3.4.3 Sub emphasis input level

Signal	•Color bar •S-INPUT
Mode	•EE •S-VHS
Equipment	•Oscilloscope
Measurement point	•TP205 (SUB EMPHASIS) : 21A
EVR mode	•A : 15
Specification	• $400 \pm 20\text{mVp-p}$

- (1) Connect an oscilloscope to TP205.
- (2) Adjust **SET** or **SELECT** button of the remote controller for $400 \pm 20\text{mVp-p}$.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

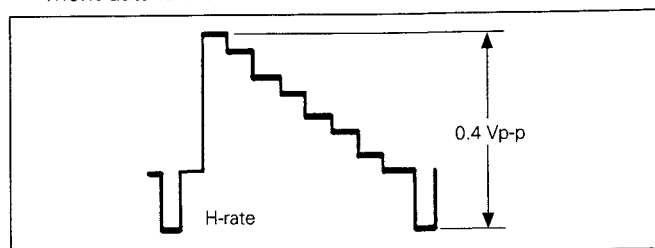


Fig. 3-4-4 Sub emphasis input level

3.4.4 White/dark clip (S-VHS/VHS)

Signal	•Color bar •S-INPUT
Mode	•EE •S-VHS/VHS
Equipment	•Oscilloscope
Measurement point	•TP204 (W/D CLIP) : 22D
EVR mode	•A : 14
Specification	•WHITE CLIP : $110\% \pm 4\%$ (S-VHS) $90\% \pm 4\%$ (VHS) •DARK CLIP : $70\% \pm 8\%$ (S-VHS) $45\% \pm 8\%$ (VHS)

- (1) Connect an oscilloscope to TP204.
- (2) Adjust **SET** or **SELECT** button for $110 \pm 4\%$ (S-VHS), $90 \pm 4\%$ (VHS) white clip and $70 \pm 8\%$ (S-VHS), $45 \pm 8\%$ (VHS) dark clip as shown in Fig.3-4-4.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

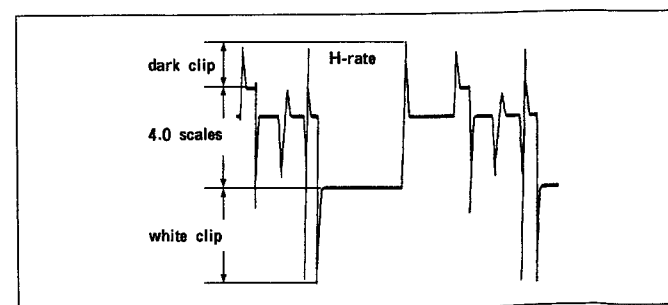


Fig.3-4-5 White/dark clip

3.4.5 Carrier/deviation (S-VHS/VHS)

Signal	• Color bar • S-VHS/VHS • S-INPUT
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• TP202 : 22E
Adjustment tool	• Carrier checker (PGJ05008-2)
EVR mode	• A : 13 (deviation) • A : 12 (carrier)
Specification	• Carrier : 5.4MHz±30KHz (S-VHS) : 3.8MHz±30KHz (VHS) • Deviation : 1.6MHz±30KHz (S-VHS) : 1.0MHz±30KHz (VHS)

- (1) Connect the carrier checker to TP202 and its output to the oscilloscope.
- (2) In the S-VHS mode select the S-VHS board of the carrier checker, adjust **SET** or **SELECT** button to accord the sync tip with the "LOWER" marker and to accord the 100% white with the "UPPER" marker.
- (3) In the VHS mode select the VHS board of the carrier checker, adjust **SET** or **SELECT** button to accord the sync tip and the "LOWER" marker and to accord the 100% white and the "UPPER" marker.
- (4) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

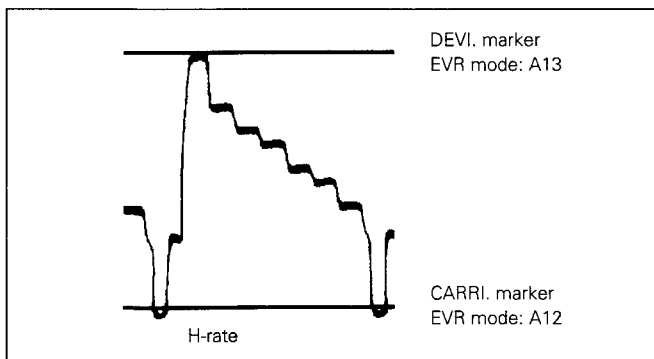


Fig. 3-4-6 Carrier/Deviation

3.4.6 PB Y level (S-VHS/VHS)

Signal	• Color bar • S INPUT
Mode	• REC → PB : SP • S-VHS / VHS • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
EVR mode	• A : 11
Specification	• 1.00 ± 0.03Vp-p (75Ω terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Record a color bar signal in S-VHS(VHS) mode and play it back.
- (3) Adjust **SET** or **SELECT** button for $1.00 \pm 0.03Vp-p$ as shown in Fig.3-4-7.
- (4) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

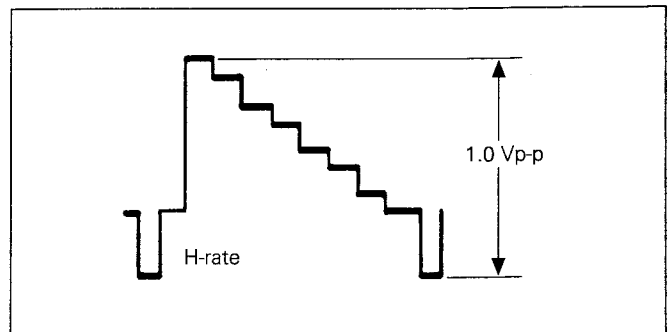


Fig.3-4-7 PB Y level

3.4.7 TBC output level

Signal	• Color bar • S-INPUT
Mode	• REC → PB : SP • S-VHS • TBC : ON
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
Adjustment part	• VR1 : 4C [TBC board] • VR2 : 3C [TBC board]
Specification	• SYNC level : 0.3 Vp-p • Y level : 0.7 Vp-p (75Ω terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Adjust VR1 so that the SYNC level becomes 0.3 Vp-p.
- (3) Adjust VR2 so that the Y level becomes 0.7 Vp-p.

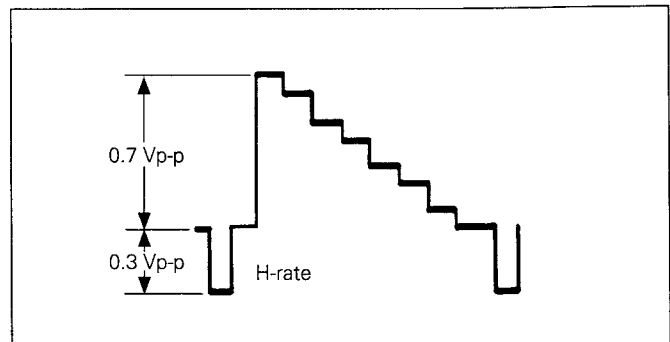


Fig.3-4-8 TBC output level

3.4.8 Pilot burst level

Signal	• Color bar • S-INPUT
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP203 : 22D
EVR mode	• A : 16
Specification	• 110%

- (1) Adjust the gain of the oscilloscope to set the burst signal level to 4.0 scale divisions.
- (2) Adjust by SET or SELECT button to be the pilot burst signal level for 4.4 scale divisions.
- (3) Set normal VCR mode by pressing MENU button so adjustment data is memorized.

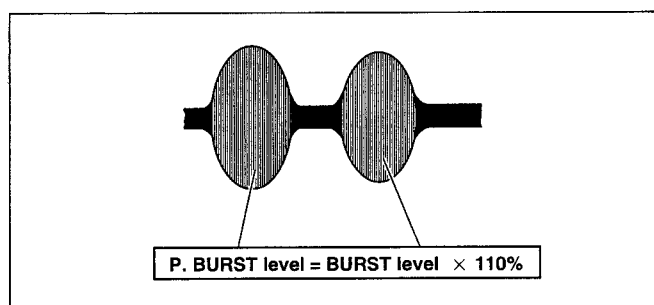


Fig. 3-4-9 Pilot burst level

3.4.9 SP/LP REC color level

Signal	• Alignment tape [MH-2H]Color bar • Alignment tape MHVE-2
Mode	• PB (SP/LP) • REC → PB : SP/LP • S-VHS/VHS (SP)
Equipment	• Oscilloscope
Measurement point	• TP211 (PB color out) : 22J
Trigger slope (-)	• TP11 (DRUM FF) [PRE/REC board]
EVR mode	• A : 2
Specification	• +2.0 dB : SP/S-VHS • +4.0 dB : LP/S-VHS • ±0 dB : SP/VHS

- (1) Playback the SP (LP) color bar signal of MH-2H and MHVE-2 alignment tape.
- (2) Short between TP209 and TP210 with shorting lead.
- (3) Adjust the gain of the oscilloscope to set the higher color level to 4.0 scale divisions.
- (4) Press the **STOP** button and eject the alignment tape.
- (5) Set EVR mode A:2.
- (6) Record a color bar signal in SP (LP) mode, and playback recorded color bar signal.

- (7) Before recording, adjust **SET** or **SELECT** button so that the higher level channel becomes 5.0 scale (+2.0 dB) : SP [6.5 scale (+4.0 dB) : LP, 5.0 scale (±0 dB) : VHS SP] during playback as shown in Fig. 3-4-11.
- (8) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

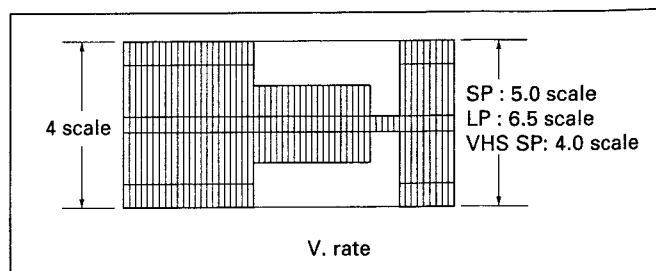


Fig. 3-4-10 REC color level

3.4.10 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • EDIT SELECT REC : OFF PB : DUB • TBC : ON
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
Adjustment prar	• R113 (S-SP VIDEO EQ) : [PRE/REC board] • R114 (S-EP VIDEO EQ) : [PRE/REC board]
Specification	• 3.6 scale R113 : SP • 3.4 scale R114 : LP

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Record a video sweep signal in S-VHS SP mode, then play it back.
- (3) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R113 so that 3.0 MHz marker level becomes 3.6 scale divisions.
- (4) Record a video sweep signal in S-VHS LP mode, then play it back.
- (5) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R114 so that 3.0 MHz marker level becomes 3.4 scale divisions.

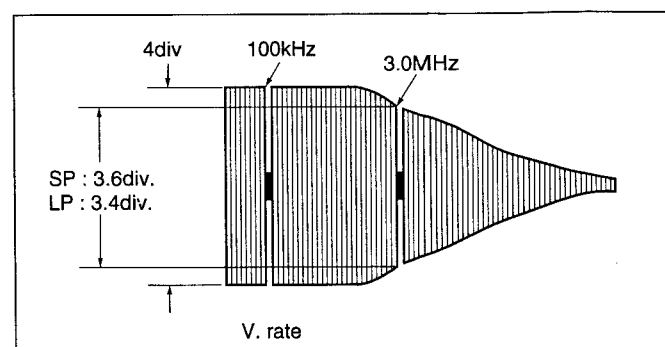


Fig. 3-4-11 S-VHS VIDEO EQ

3.4.11 AFC CLOCK

Note: For the following adjustments, use 1 : 1 probe with input capacitance less than 100 pF.

Signal	•No signal
Mode	•PB (not yet used tape)
Equipment	•Frequency counter
Measurement point	•TP301 : 16M
Adjustment part	•VR301 (fH) : 17M
Specification	•15.625 ± 0.10 kHz

- (1) Connect the frequency counter to TP301 and GND.
- (2) Adjust VR301 for 15.625 ± 0.10 kHz.

3.5 PRE/REC CIRCUIT

3.5.1 REC FM level

Note: The R12, REC FM level is not necessary to be readjusted for any cases servicing.

If it is turned accidentally or IC1 need to be replaced for some reason, whole PRE/REC board have to be replaced.

3.6 AUDIO CIRCUIT

Note: Unless otherwise specified, all measurement point and adjustment parts are located on the PRE/REC BOARD.

3.6.1 Audio REC FM level

Signal	•VIDEO : Color bar •Audio : No signal
Mode	•REC → PB : LP •S-VHS •Automatic tracking : OFF
Equipment	•Oscilloscope
Measurement point	•TP53 (A. PB FM)
Trigger slope (-)	•TP11 (DRUM FF)
Adjustment part	•R216 (A. REC FM LEVEL)
Specification	•70 ± 10 mVp-p

- (1) Connect an oscilloscope to TP53.
- (2) Record a color bar signal without an audio signal in S-VHS LP mode then playback.
- (3) Adjust R216 for 70 mVp-p playback level of higher channel level before recording.
- (4) Confirm that the lower channel level is more than 40 mVp-p.

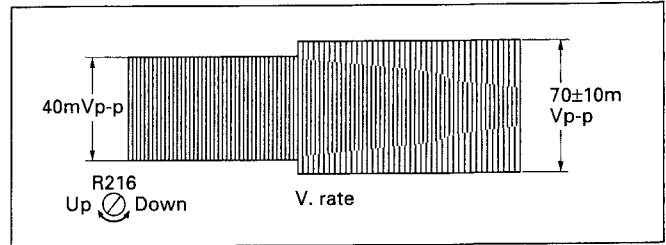


Fig. 3-6-1 Audio REC FM level

3.6.2 Audio EE level

Signal	•1kHz, -8dBs
Mode	•EE •Audio out select : HiFi L+R
Equipment	—
Measurement point	•Sound level meter (Front panel)
Adjustment part	•VR1(A LEV ADJ (L)) [MAIN board] : 7M •VR2(A LEV ADJ (R)) [MAIN board] : 7M
Specification	•0 dB

- (1) Set the HiFi REC level VR to center click position.
- (2) Adjust VR1 and VR2 so that the sound level meter shows 0dB.

3.7 SYSCON CIRCUIT

Note: Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

3.7.1 CPU clock

Notes: • For the following adjustment, use 1 : 1 probe with input capacitance less than 100 pF.

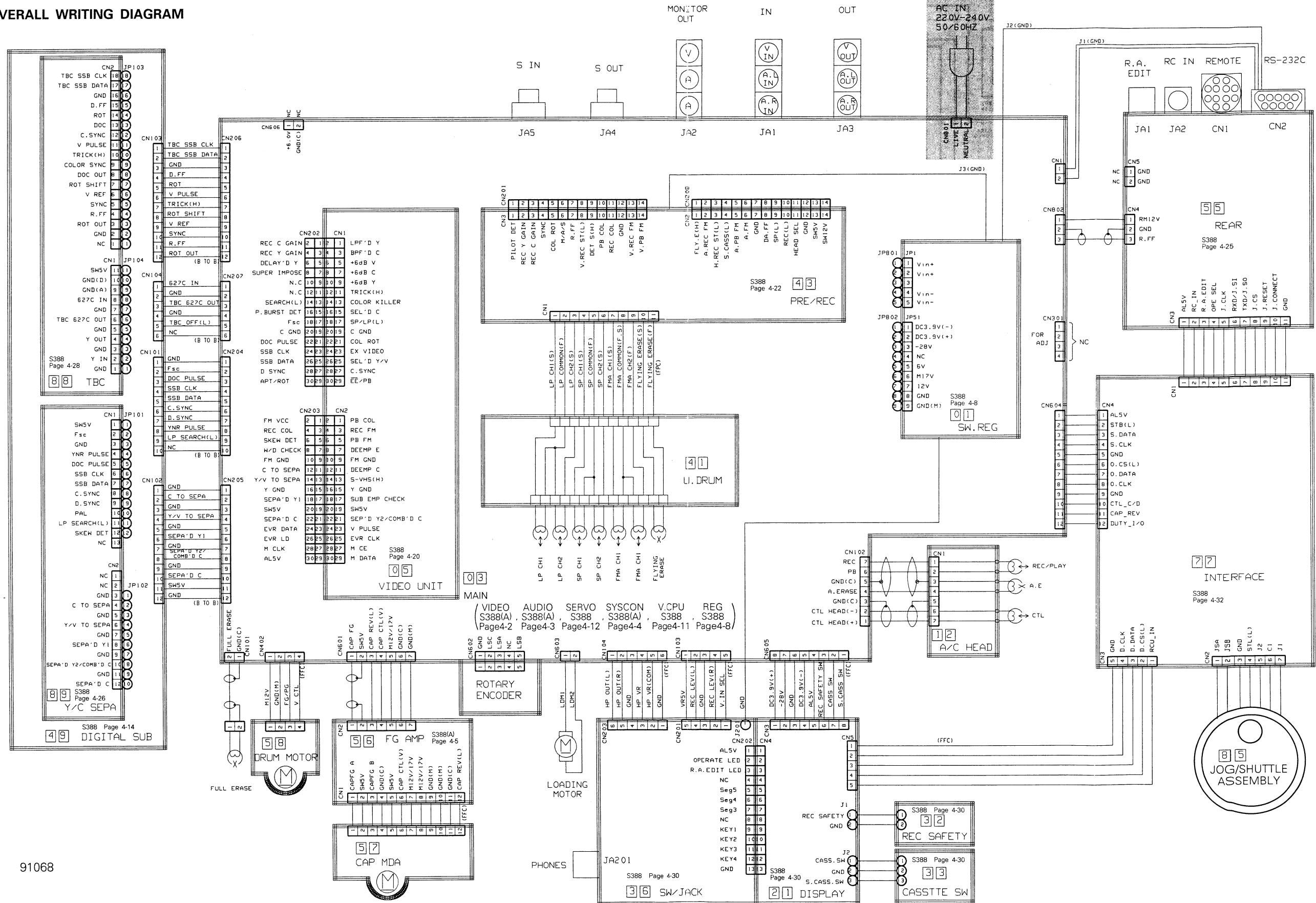
• Do not use the probe of the oscilloscope.

Signal	•No signal
Mode	•EE
Equipment	•Frequency counter
Measurement point	•IC601-pin 64 (TP604) : 12F •TP602 (GND) : 16C
Adjustment part	•VC601 (CPU CLK) : 16D
Specification	•1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μs)

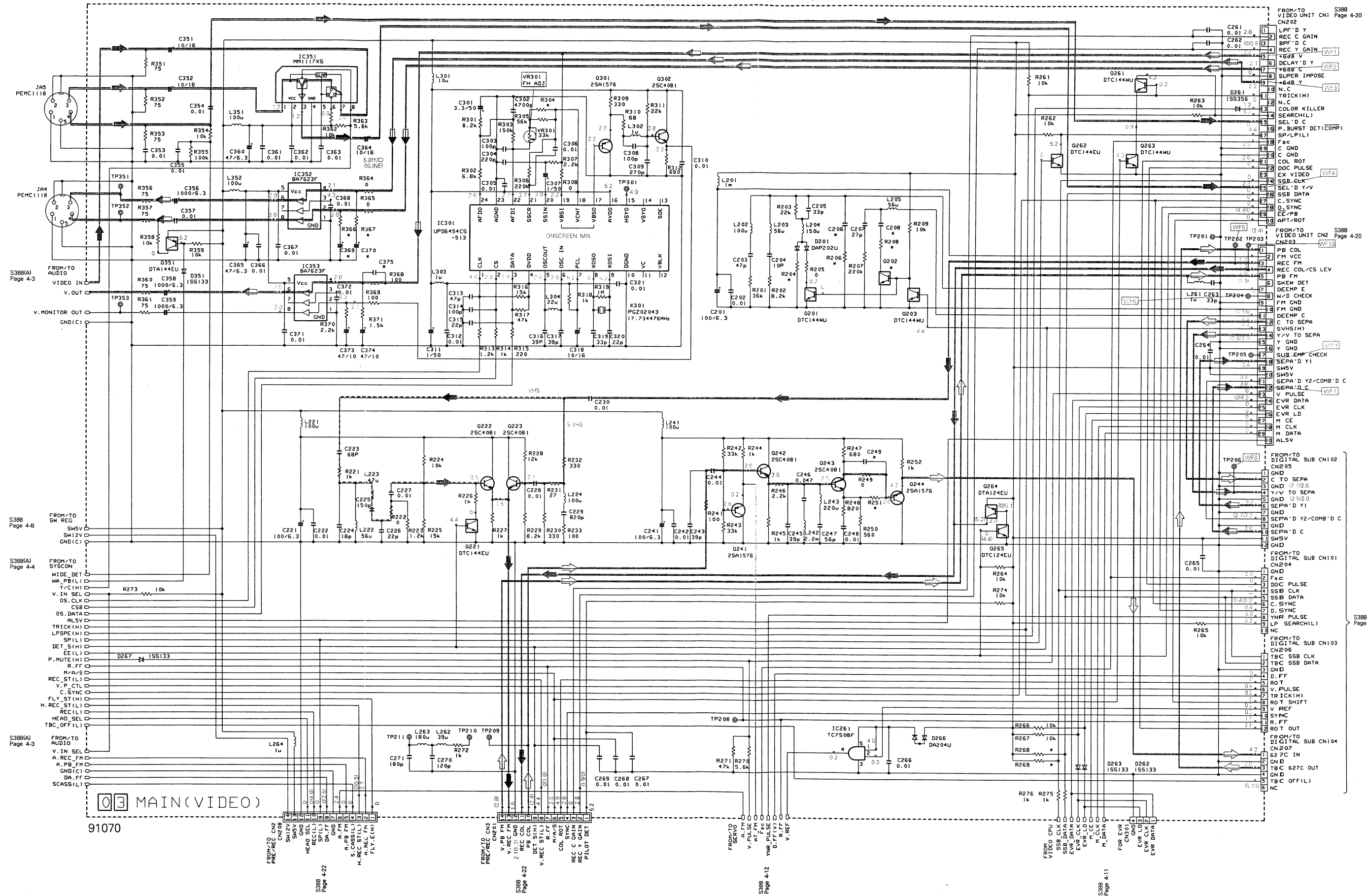
- (1) Short between TP603 : 17G and IC601-pin 63 (L601 : 14F) with shorting lead.
- (2) Short the lead of C610 : 17D (between TP605 : 17D and TP602 : 16C) once in order to reset CPU.
- (3) Adjust VC601 so that the frequency of CPU clock is 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μs).

SECTION 4 DIAGRAM AND CIRCUIT BOARDS

4.1 OVERALL WRITING DIAGRAM



4.2 MAIN(VIDEO) CIRCUIT BOARD SCHEMATIC DIAGRAM

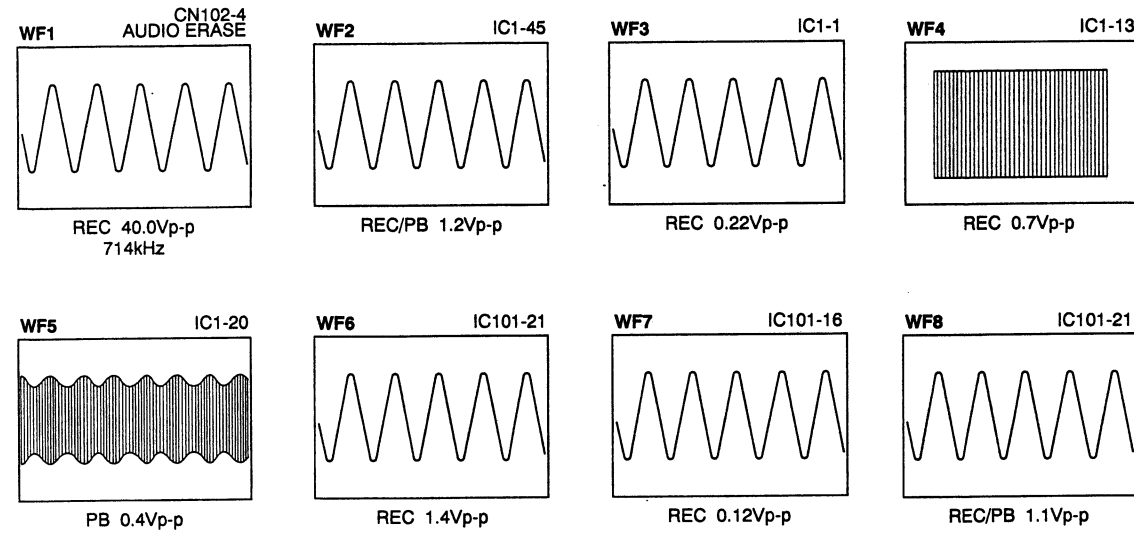




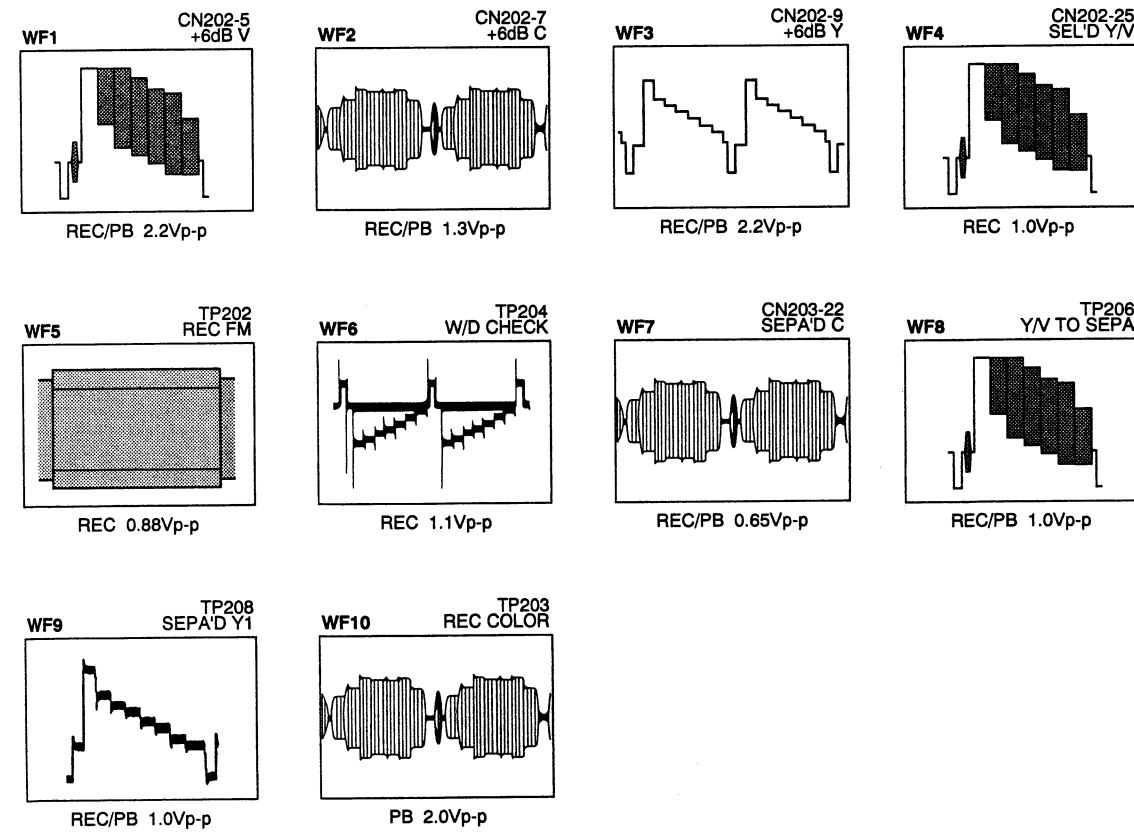
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Page 4-8

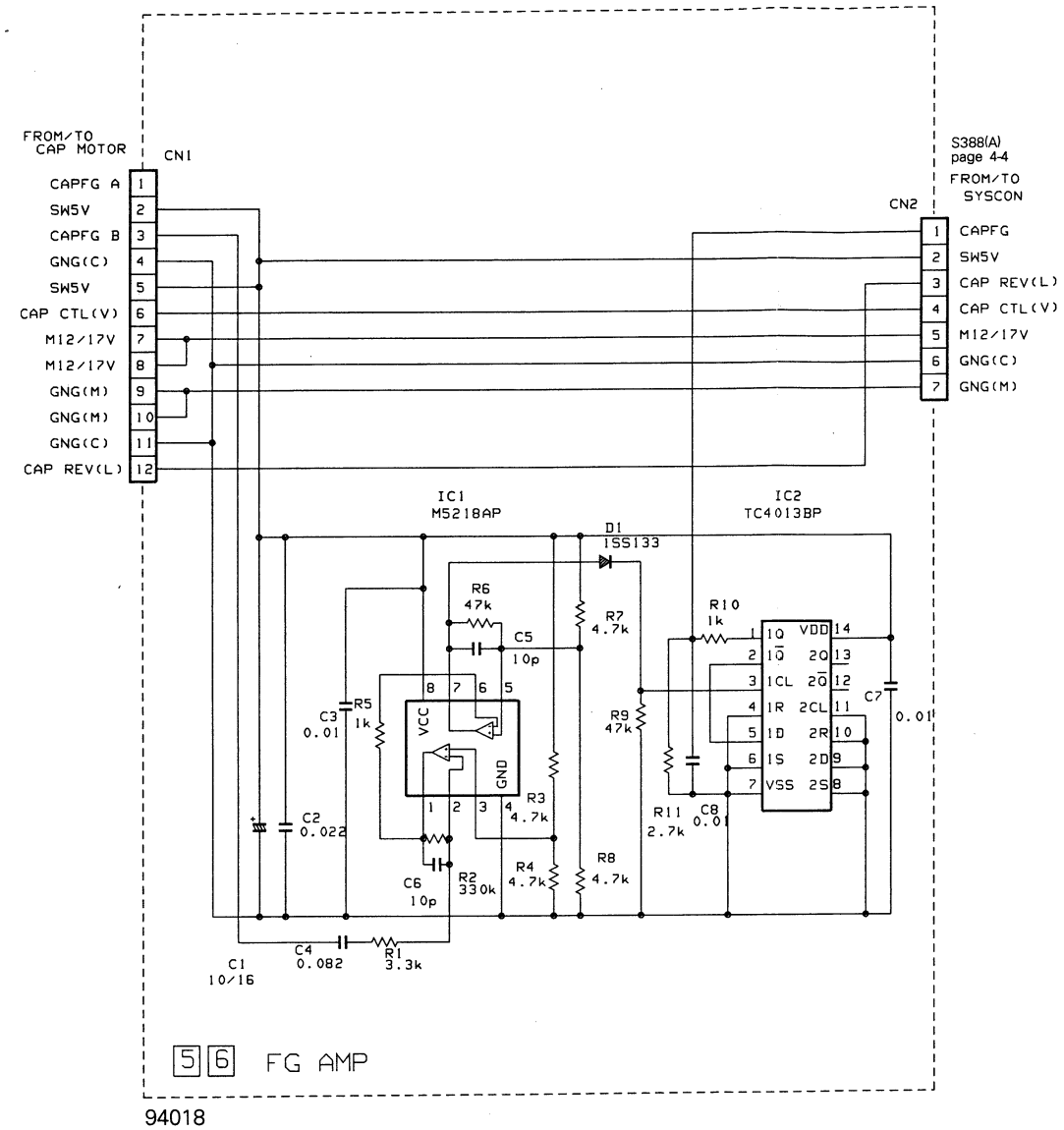
— AUDIO —



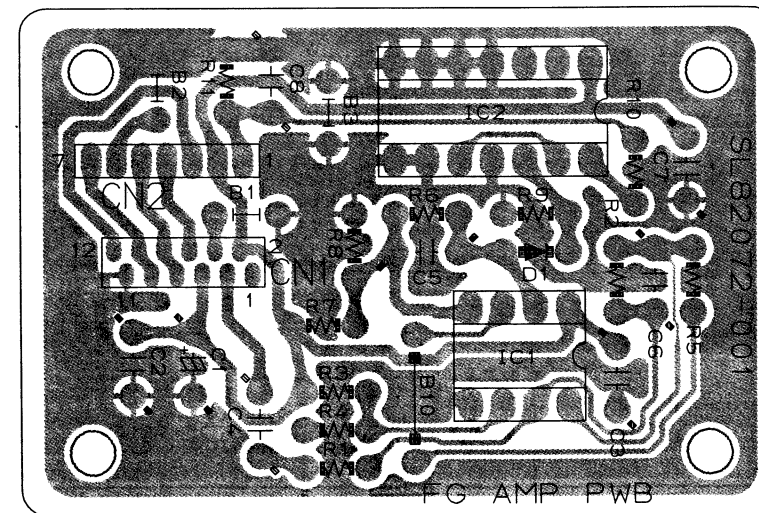
— VIDEO —



4.5 FG AMP CIRCUIT BOARD SCHEMATIC DIAGRAM



4.6 FG AMP CIRCUIT BOARD



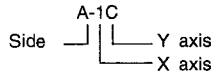
— SIDE B —



4-6

● ADDRESS LABEL OF BOARD PARTS

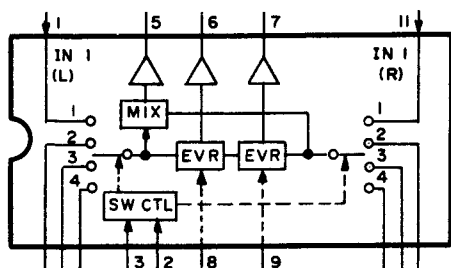
Each address may have an address error by one interval.



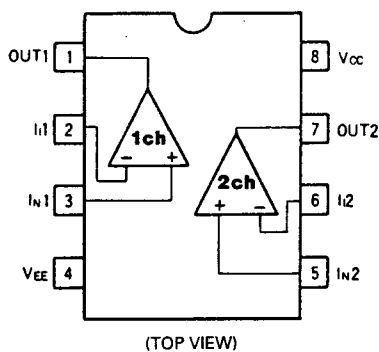
IC1	11O	D266	20H	R115	9M	R268	22F	R610	17E	R710	14C	C25	10O	C187	20L	C374	18N	C760	10D	B451	11H
IC2	8N	D267	18E	R116	11K	R269	22F	R611	17E	R711	13C	C26	10O	C201	19F	C375	19N	C761	8D	B615	15D
IC3	8O	D351	18O	R117	11K	R270	18E	R612	17E	R712	13C	C27	9O	C202	19F	C401	9J	C762	8D	B616	15D
IC101	9L	D451	11G	R118	9K	R271	19D	R613	17E	R715	14B	C28	10O	C203	19F	C402	10J	C763	8D		
IC171	21L	D601	4B	R119	11M	R272	22J	R614	17E	R716	14A	C29	9O	C204	20F	C403	10J	C801	2O	K1	13N
IC172	21M	D602	4B	R120	11K	R273	17N	R615	17E	R717	14B	C30	10N	C205	20F	C404	10J	C802	3O	K2	13M
IC261	20G	D603	5M	R121	11M	R274	14K	R616	17E	R718	14B	C31	13P	C206	20F	C405	9I	C803	4M	K3	14N
IC301	18K	D604	17D	R131	5L	R275	21E	R617	17F	R719	13B	C32	12P	C207	20G	C406	11I	C810	2M	K4	12O
IC351	14N	D605	14E	R132	7L	R276	21F	R618	17F	R720	13B	C33	14P	C208	21F	C407	9J	C814	4L	K5	12O
IC352	15N	D606	14D	R133	6L	R301	18L	R619	17F	R721	13B	C34	15P	C221	20C	C408	8I	C862	2D	K6	14O
IC353	18O	D607	14D	R134	7L	R302	18L	R621	17F	R722	14A	C35	11O	C222	20C	C409	9H	C863	2C	K7	14O
IC401	10I	D608	10G	R135	7L	R303	18M	R622	17F	R723	14A	C36	10N	C223	18D	C410	9H	C864	4C		
IC451	12G	D609	12E	R136	8L	R304	18L	R623	17F	R724	13A	C38	8O	C224	18C	C411	9H	C865	5D	FC801	3P
IC601	15F	D611	14H	R137	8L	R305	18L	R624	17G	R725	13A	C39	8P	C225	18D	C412	9H	C866	2E	FC802	4P
IC602	11F	D612	6F	R138	8L	R306	17M	R625	17G	R726	13A	C40	10P	C226	19C	C413	10H	C867	3C		
IC603	17D	D801	4M	R139	9M	R307	17M	R626	17F	R727	11C	C41	11P	C227	19D	C414	10H	C868	1D	CP401	5G
IC604	8H	D802	3M	R140	8M	R308	17M	R627	16G	R751	8C	C42	11P	C228	20D	C415	8I	C870	1E	CP601	5G
IC607	10D	D803	3M	R141	8L	R309	16L	R628	16G	R752	8C	C43	9P	C229	20D	C416	10I			CP801	5E
IC608	14B	D804	3M	R142	7K	R310	16L	R629	16G	R753	8C	C44	12O	C230	20D	C417	10H	VC601	16D	CP802	5F
IC751	9C	D851	5O	R143	8K	R311	16M	R630	16G	R754	7C	C45	13N	C241	20I	C451	12G			CP803	5F
		D852	5O	R144	8K	R312	16M	R631	16G	R755	7C	C46	14O	C242	20I	C452	12G	L1	13O		
Q1	10P	D853	5N	R145	9L	R313	18K	R632	15H	R756	7D	C47	14O	C243	20I	C453	12G	L2	13O	CN1	11P
Q2	10P	D862	3C	R146	7I	R314	18K	R633	16G	R757	7D	C51	6O	C244	20I	C454	12G	L6	6M	CN2	6P
Q3	11P	D863	3C	R147	6I	R315	18K	R634	16G	R758	8D	C52	5M	C245	21I	C455	11G	L7	6N	CN101	6L
Q4	9P	D863	3C	R148	6M	R316	18K	R635	15G	R759	8C	C61	9N	C246	21I	C456	12H	L101	11M	CN102	9K
Q51	6M	D885	4E	R149	8L	R317	17K	R636	15H	R760	9C	C62	8O	C247	21I	C457	12H	L201	19G	CN103	17N
Q52	6N			R171	20L	R318	17K	R637	15G	R761	7D	C63	13P	C248	21J	C458	12H	L202	19F	CN104	20O
Q101	11L	R2	10M	R172	20L	R319	17K	R638	15H	R762	9C	C64	13P	C249	21J	C459	12H	L203	20F	CN201	13L
Q131	8L	R3	10N	R173	20N	R351	14N	R639	15H	R763	9C	C65	8N	C261	21I	C601	16D	L204	20F	CN202	21H
Q132	8L	R4	10M	R174	20M	R352	16O	R641	15G	R764	7D	C66	6M	C262	21I	C602	16D	L205	21G	CN203	21E
Q133	8M	R5	10N	R175	20M	R353	17O	R643	15G	R765	9C	C67	8N	C263	21D	C603	7E	L221	20D	CN204	22F
Q134	8K	R6	15L	R176	20N	R354	17O	R644	14G	R776	9D	C68	7N	C264	21C	C604	7F	L222	18C	CN205	22C
Q135	8L	R7	12M	R177	20M	R355	17O	R645	15G	R777	9D	C69	7N	C265	22B	C606	16E	L223	18C	CN206	22N
Q171	20N	R8	11N	R178	20M	R356	15O	R646	14G	R778	9D	C72	8M	C266	20H	C607	14E	L224	20C	CN207	22L
Q172	20N	R11	12N	R179	20N	R357	16O	R647	14G	R779	15I	C73	7M	C267	13K	C608	16E	L241	20H	CN208	15L
Q201	20F	R12	12N	R180	20N	R358	16O	R648	14G	R780	5F	C81	7P	C268	13K	C609	16D	L242	21I	CN301	5B
Q202	20F	R13	11O	R181	20M	R359	16O	R649	14H	R801	4G	C82	7P	C269	13K	C610	17D	L243	21J	CN402	5K
Q203	19G	R14	11O	R182	20M	R360	19O	R650	14F	R855	2D	C83	7P	C270	21J	C611	17D	L261	21E	CN601	11I
Q221	19C	R15	9P	R183	20N	R361	19O	R651	14F	R856	3E	C84	7O	C271	22J	C613	10D	L262	21E	CN602	7B
Q222	19C	R16	12M	R184	21N	R362	14M	R652	14F	R858	2D	C85	8P	C301	18L	C614	12E	L263	22J	CN603	6K
Q223	19C	R17	12M	R185	21N	R363	14M	R654	14F	R859	3D	C101	9L	C302	18M	C616	7H	L264	13K	CN604	4B
Q241	20I	R28	15L	R186	21K	R364	16N	R655	14F	R860	2C	C102	9L	C303	18L	C617	7G	L301	19L	CN605	2B
Q242	20J	R29	12N	R201	19F	R365	16N	R658	14F	R861	2C	C103	9K	C304	17L	C619	15D	L302	16M	CN606	5F
Q243	21J	R30	8P	R202	20F	R366	15N	R659	14E	R863	4D	C104	11L	C305	17L	C620	6D	L303	18K	CN801	2P
Q244	21J	R31	8O	R203	20F	R367	15N	R660	14E	R864	4D	C105	11M	C306	17M	C621	19E	L304	17K	CN802	5N
Q261	21G	R32	8P	R204	20F	R368	18N	R661	14E	R865	4C	C106	11L	C307	17L	C622	18G	L351	15M		
Q262	21G	R33	8O	R205	20F	R369	18N	R662	14E	R866	2E	C107	9L	C308	16M	C623	6K	L352	15M	X301	17K
Q263	20G	R34	11O	R206	20G	R370	18N	R663	14E	R868	2E	C108	9L	C309	16M	C624	13A	L401	10H	X601	16D
Q264	20G	R35	11O	R207	20G	R371	18N	R664	14E	R872	2D	C109	9K	C310	17M	C625	7J	L451	12F		
Q265	20G	R36	10P	R208	21F	R401	9J	R665	14D	R885	4D	C110	9K	C311	18K	C626	16H	L601	14F	CF601	16D
Q301	16L	R37	10P	R209	19G	R402	9J	R667	15D	R896	3E	C111	10K	C312	17L	C627	10E	L602	13F	CF751	7C
Q302	16M	R38	11P	R221	18C	R403	9J	R668	15D	R897	4D	C112	10K	C313	18L	C628	16G	L603	5H		
Q351	16O	R39	11P	R222	19D	R404	11J	R669	15D	R898	4F	C113	10K	C314	18L	C633	14G	L604	6K	J201	12K
Q401	9H	R40	10P	R223	19C	R405	10J	R670	15D			C114	11M	C315	17L	C634	14H	L605	7J	J201	4G
Q601	5L	R41	9P	R224	19D	R406	10J	R671	15D	VR1	7M	C115	10M	C316	17L	C635	14H			J202	3C
Q602	5E	R51	6O	R225	19C	R407	11I	R672	15D	VR2	7M	C116	8M	C317	17L	C636	14G			J202	4F
Q603	20E	R52	6O	R226	19D	R408	9I	R673	8F	VR301	17M	C117	11L	C318	16K	C637	14H				
Q604	17G	R53	5M	R227	19C	R409	9H	R674	5L	VR801	2B	C118	10K	C319	17L	C638	14G			T101	7L
Q605	17G	R61	9O	R228	19C	R410	9I	R675	5L			C131	7M	C320	17L	C639	3B			T102	7K
Q606	16G	R62	9O	R229	20C	R411	9H	R676	12D			C132	7L	C321	17K	C640	14F				
Q851	2D	R63	7M	R230	20C	R412	9I	R681	6D	C2	9N	C133	7L	C351	14N	C642	13F			JA1	13P
Q851H	1D	R64	8O	R231	20D	R413	10H	R682	6E	C3	10N	C134	7L	C352	16O	C643	11E			JA2	14P
Q852	2D	R65	7M	R232	20D	R414	10I	R683	20E	C4	10M	C135	7M	C353	17O	C645	8H			JA3	12P
Q853	2D	R66	8O	R233	20D	R415	11H	R684	20E	C5	10M	C136	6L	C354	17O	C646	6H			JA4	15P
Q854	2E	R72	7M	R241	20I	R416	10G	R685	11D	C6	10M	C137	7J	C355	17O	C647	18D			JA5	17P
Q855	4D	R73	7M	R242	20I	R417	10I	R686	10C	C7	10N	C138	7K	C356	15N	C648	13I				
Q859	2E	R81	8P	R243	20I	R418	10H	R687	12E	C8	5M	C139	8K	C357	16O	C649	14G			PS601	10B
Q885	4E	R82	7P	R244	20I	R451	12G	R688	17B	C9	14L	C171	20L	C358	19O	C650	14G			PS602	17B
Q886	4E	R83	7P	R245	20I	R452	11G	R692	17G	C10	12M	C172	20L	C359	19O	C651	14F				
		R84	7P	R246	20I	R453	11G	R693	17G	C11	12M	C173	20L	C360	15M	C652	14E			LF801	1O
D1	13O	R102	10L	R247	20J	R454	11G														

4.8 IC BLOCK DIAGRAMS

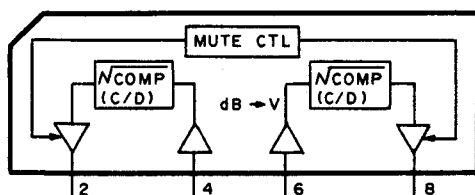
■ AN3969K [MATSUSHITA] (Audio Level Controller)



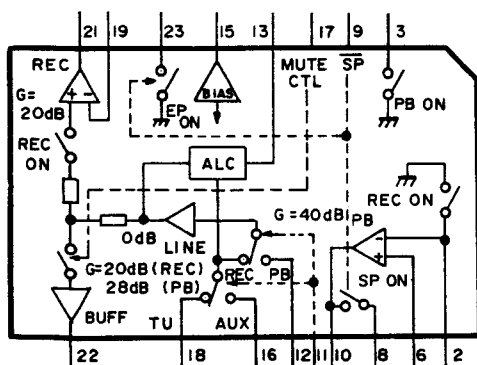
■ BA15218 [ROHM] (Dual High Slew Rate, Low Noise Operation Amplifiers)



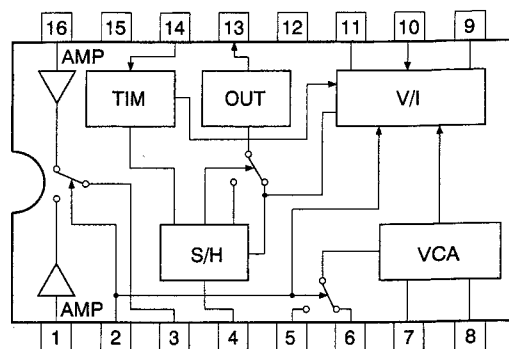
■ BA6138 [ROHM] (Audio Level Detector)



■ BA7795LS [ROHM] (Normal Audio Signal Processor)



■ BA7039 [ROHM] (VTR Auto Tracking Interface)

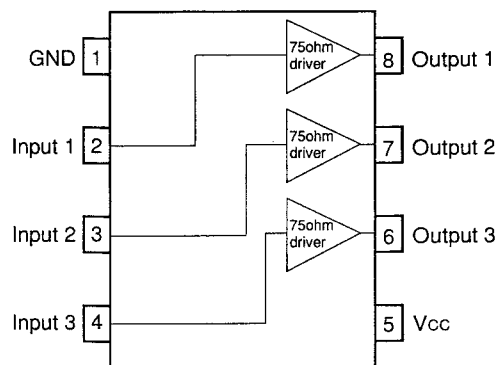


(Top View)

Pin Function

Pin No.	Function	Pin No.	Function
1	AUDIO FM IN	9	V/I RESISTOR
2	VFM/AFM CTL	10	SP/EP GAIN CTL
3	AMP OUT	11	CHARGED CAPACITOR
4	HOLD CAPACITOR	12	GND
5	AUDIO FILTER IN	13	DC OUT
6	VIDEO FILTER IN	14	D.F.F IN
7	VIDEO GAIN ADJ.	15	Vcc
8	AUDIO GAIN ADJ.	16	VIDEO FM IN

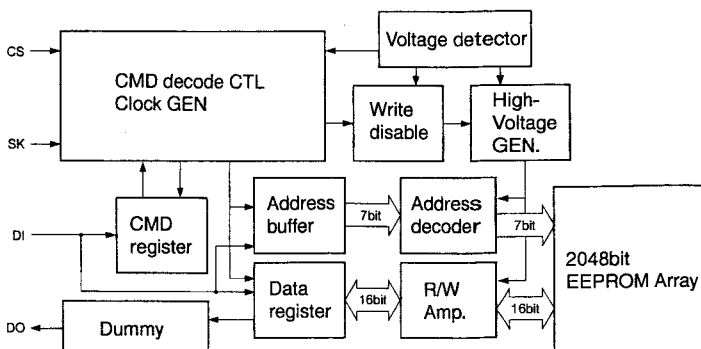
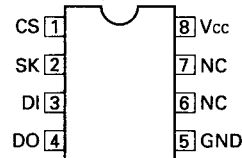
■ BA7623F-X [ROHM] (VTR 3-Input 3-Output 75Ω Driver)



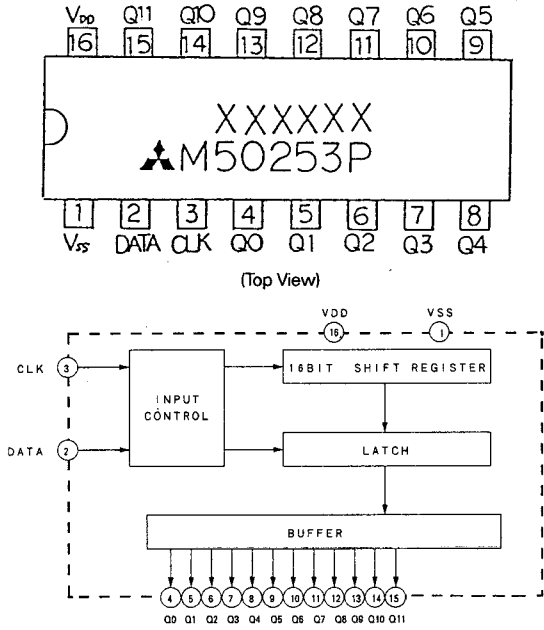
(Top view)

■ BR93LC56A [ROHM] (EE PROM)

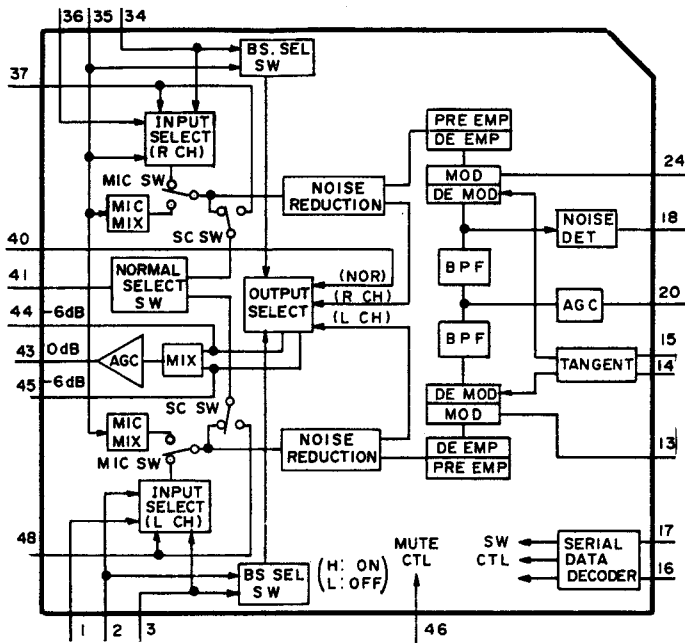
(Top View)



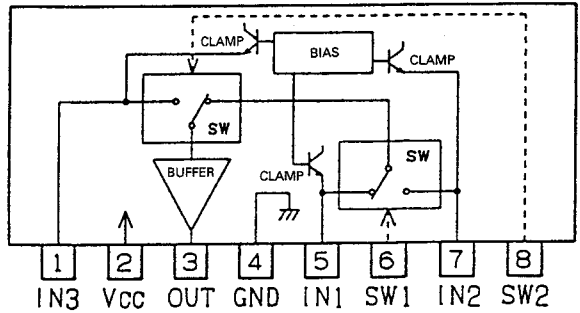
■ **M50253P [MITSUBISHI]**
(Serial/Parallel Converter)



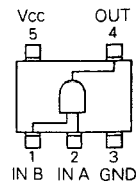
■ JCP0056 [JVC]
(FM Audio Signal Processor)



■ **MM1117XS [MITSUMI]**
(2 Input 1 Output Video Switch)



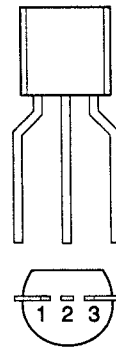
■ **TC7S08F-X [TOSHIBA]**
(2 Input Single AND Gate)



TRUE Table

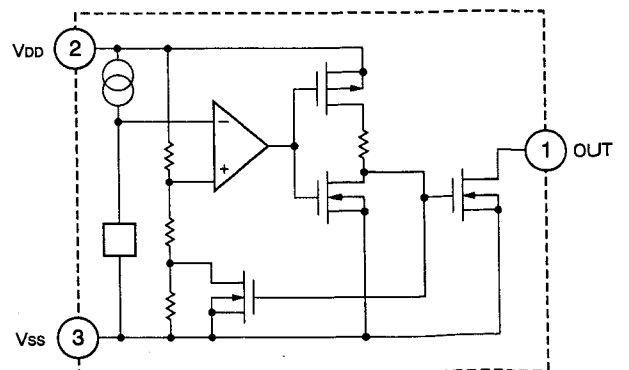
A	B	X
L	L	L
L	H	L
H	L	L
H	H	H

■ S-80728AN-Z [SEIKO]
(System Reset)

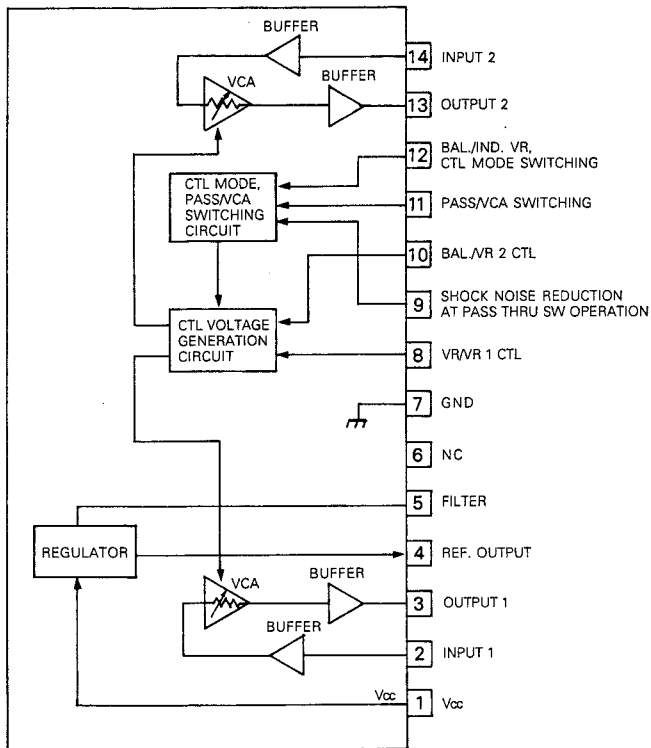
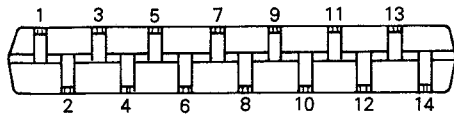


BOTTOM VIEW

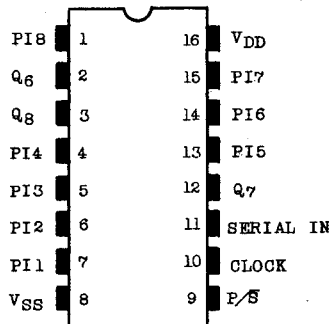
1. OUT
2. V_{DD}
3. V_{SS}



■ M51132L [MITSUBISHI]
(2-Channel Electrical Volume)



■ TC4021BP [TOSHIBA]
(8 Stage Static Shift Register)



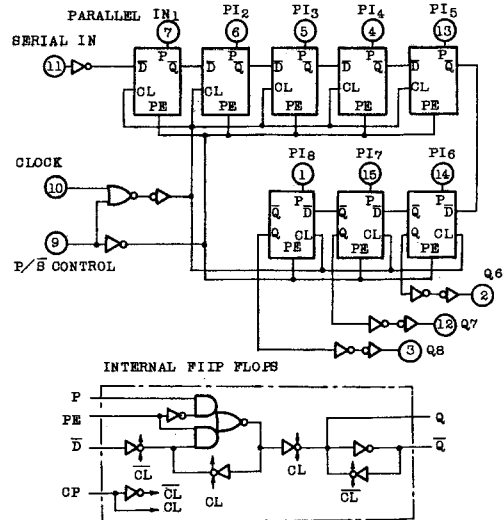
(TOP VIEW)

TRUTH TABLE

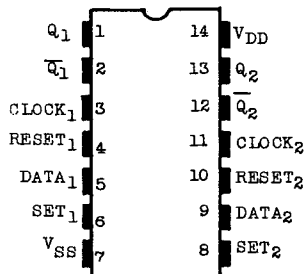
CLOCK Δ	INPUTS				OUTPUTS Δ	
	P/S	PI ₁	PI _n	SI	Q ₁	Q _n
	L	*	*	L	L	Q _{n-1}
	L	*	*	H	H	Q _{n-1}
	L	*	*	*	No Change	
*	H	L	L	*	L	L
*	H	L	H	*	L	H
*	H	H	L	*	H	L
*	H	H	H	*	H	H

n : 2 ~ 8
 Δ : Q₁ ~ Q₅ Internal
 Δ : Level
 * : Don't Care

LOGIC DIAGRAM

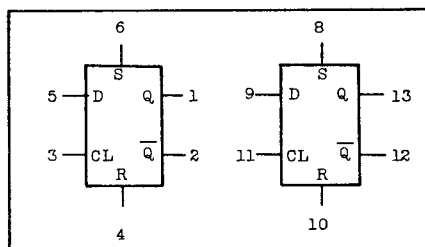


■ TC4013BP [TOSHIBA]
(Dual D-Type Flip Flop)



(TOP VIEW)

BLOCK DIAGRAM

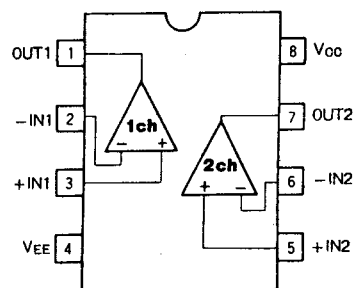
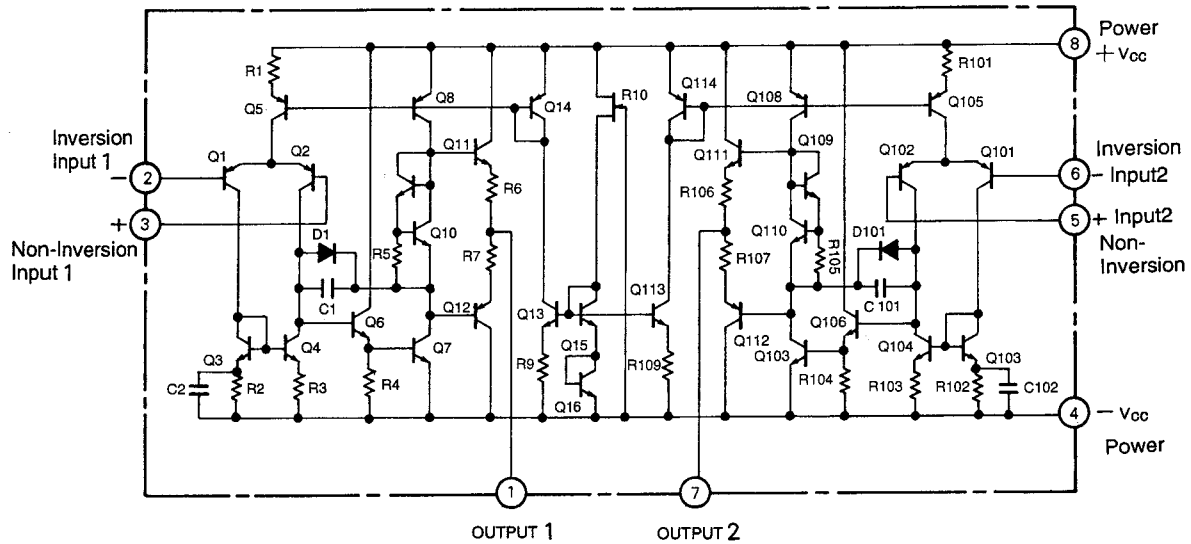


TRUTH TABLE

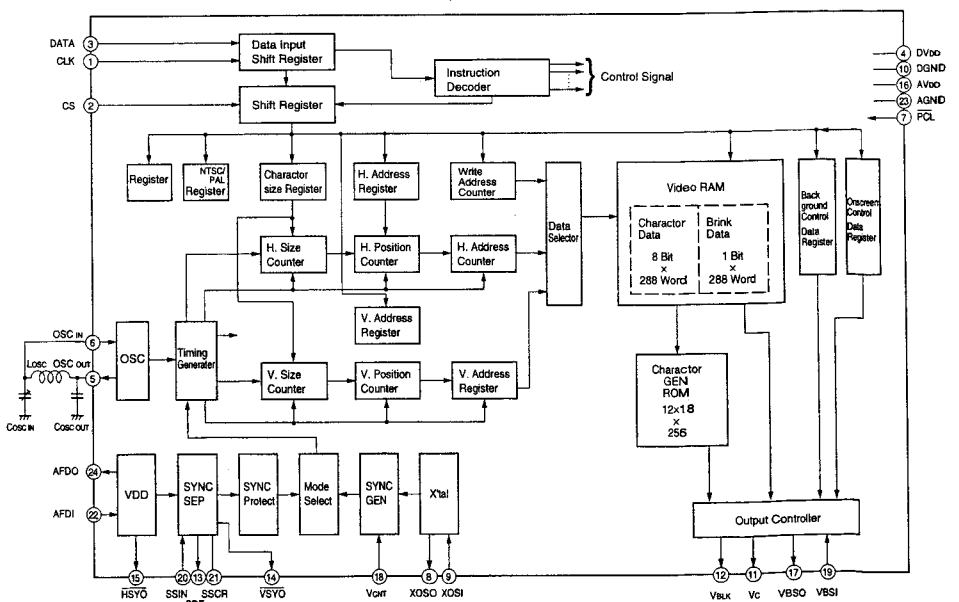
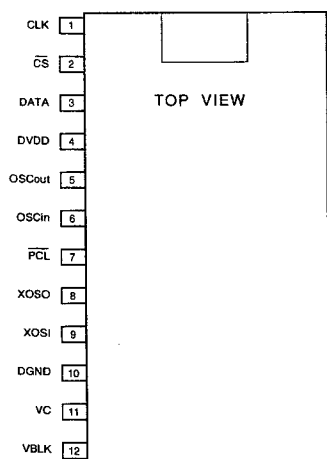
INPUTS				OUTPUTS	
RESET	SET	DATA	CLOCK Δ	Q _{n+1}	$\bar{Q}_{n+1}$
L	H	*	*	H	L
H	L	*	*	L	H
H	H	*	*	H	H
L	L	L		L	H
L	L	H		H	L
L	L	*		Q _n *	$\bar{Q}_{n}$ *

* : Don't Care
 Δ : Level Change
 • : No Change

■ M5218AP [MITSUBISHI]
(Dual Op.Amp.)

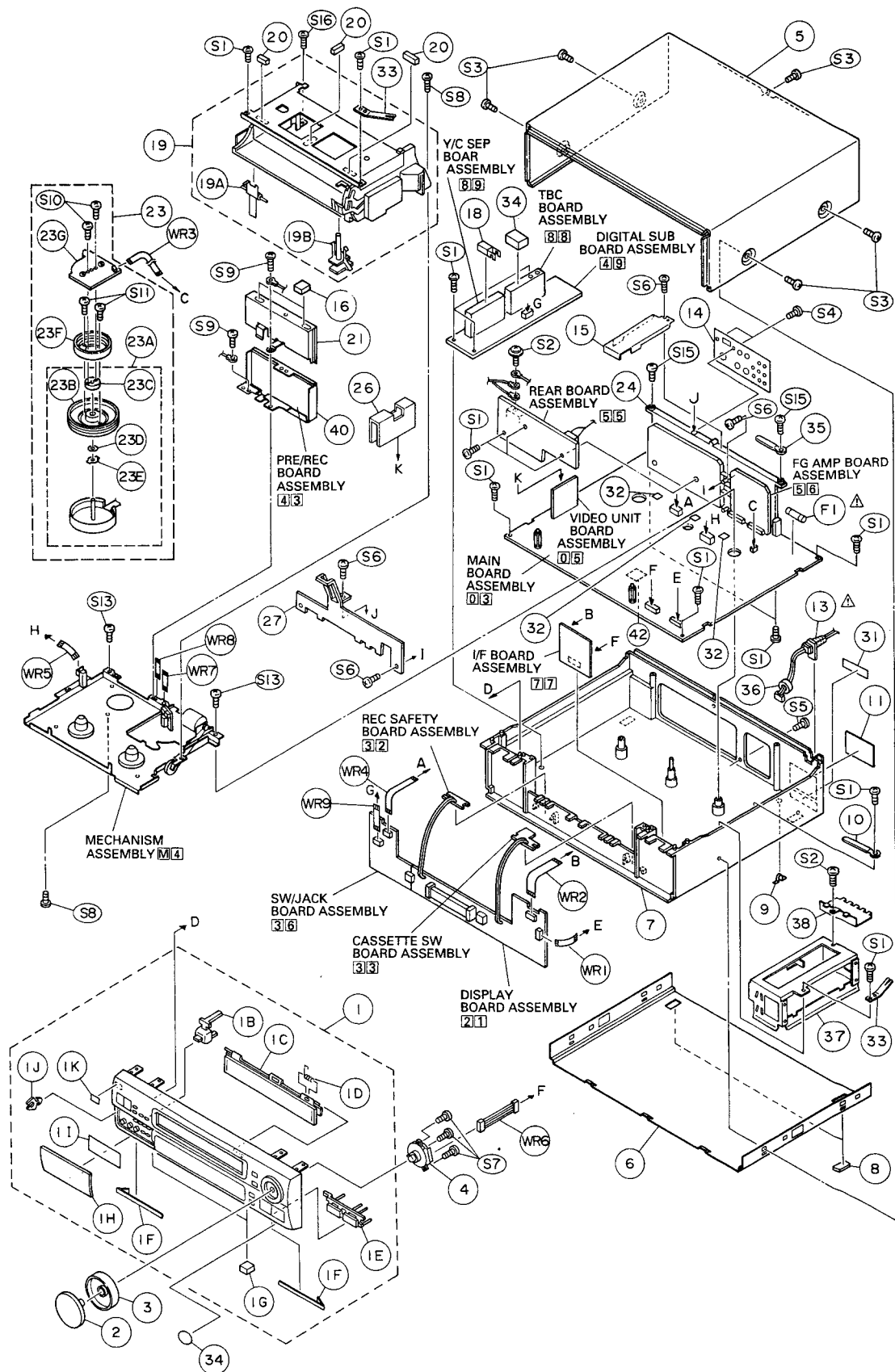


■ UPD6454CS-513 [NEC]
(Character Generator)

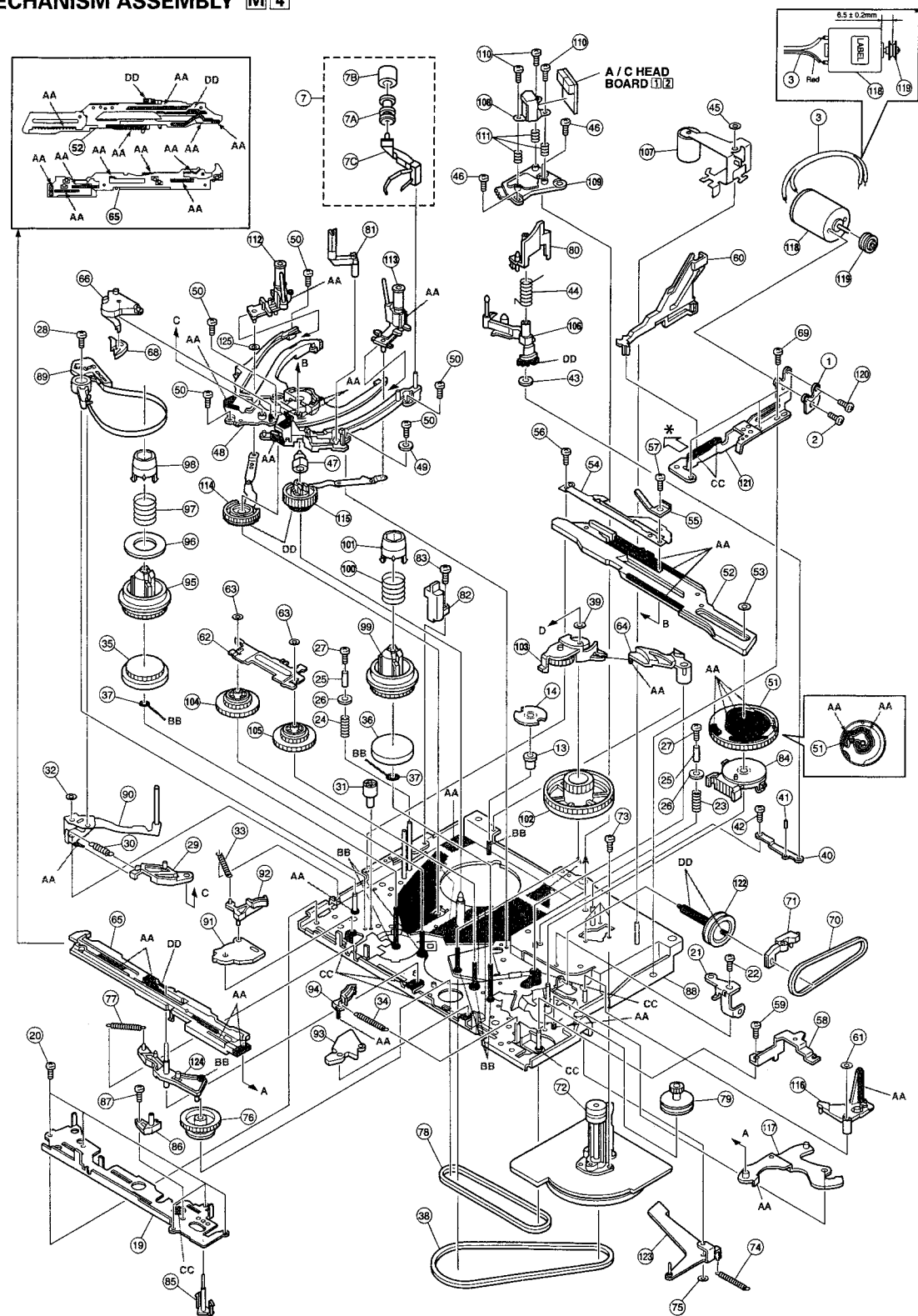


SECTION 5 EXPLODED VIEWS AND PARTS LIST

5.1 CABINET AND CHASSIS ASSEMBLY M 2



5.3 MECHANISM ASSEMBLY M 4



NOTE: The section marked in AA, BB, CC and DD indicated lubrication and greasing areas.
*When installing the No. 121 guide bracket, draw up to the direction by the arrow.

Gatgory	JVC part No.	MARK
Grease	KYODO-SH-P	AA
	KANTO-GB-TS-1	DD
	MD-2000	CC
Oil	COSMO-HV56	BB

5.4 MECHANISM ASSEMBLY PARTS LIST M 4

M 4 M M

Symbol No.	Part No.	Part Name	Description
1	PRD45167-1-2	MOTOR GUIDE	M2.6 x 4
2	SDSP2604Z	SCREW	
3	PW30101-80AJ632	WIRE	
7	PQ46436A-1	H.CLEANER ARM ASSEMBLY	
7A	PQ46418-1-2	CLEANER ROLLER	
7B	PQ46419-1-2	HEAD CLEANER	
7C	PQ35159-1-1	H.CLEANER ARM	
13	PDM4311A-1	ROLLER ASSEMBLY	
14	PQ44230	INERTIA PLATE	
19	PRD20625	MAIN PLATE	
20	SPST2606Z	SCREW	M2.6 x 6
21	PRD45055	W.GEAR BRACKET	M2.6 x 6
22	SDSP2606Z	SCREW	
23	PRD30023-62	COMP.SPRING 62	
24	PRD30023-63	COMP.SPRING 63	
25	PRD45080	TAPE GUIDE	M2 x 6 M2.6 x 6
26	PRD45081	GUIDE FLANGE	
27	PRD43165	SCREW	
28	SDSP2606Z	SCREW	
29	PQ35012-1-5	T.ARM LEVER	
30	PQM30001-385109	TEN.SPRING 109	
31	PQ46302-1-3	ADJUST PIN	
32	PQM30017-47	SLIT WASHER	
33	PQM30001-393	TEN.SPRING 393	
34	PQM30001-389102	TEN.SPRING 102	
35	PQ35436	SLIT DISK(S)	
36	PQ35437	SLIT DISK(T)	
37	PQM30018-69	SPACER	
38	PQM30003-38	BELT(CAPSTAN)	
39	Q03093-830	WASHER	
40	PRD45056	HEIGHT PLATE	M2 x 5 M2.6 x 6
41	YFS2005B	SCREW	
42	SPST2606Z	SCREW	
43	PRD45082	TUG SPACER	
44	PQ46326-2	TOR.SPRING2	M2.6 x 6
45	PQM30017-24	SLIT WASHER	
46	SDSP2606Z	SCREW	
47	PQ46767-1-2	GUIDE CAP	
48	PQ11657-1-9	GUIDE RAIL	
49	LP40005-001A	SPACER	M2.6 x 8
50	SPST2608Z	SCREW	
51	PQ21684-1-3	CONTROL CAM	
52	PQ11658-1-15	CONTROL PLATE	
53	PQM30017-8	SLIT WASHER	
54	PQ35138-2	CONTROL BRACKET	M2.6 x 6 M2.6 x 8 M2.6 x 6
55	PQ46423	EARTH PLATE	
56	SPST2606Z	SCREW	
57	SPSF2608M	SCREW	
58	PQ35217-1-2	CTL BRACKET 2	
59	SPST2606Z	SCREW	
60	PQ21685-2-10	PINCH R.PLATE	
61	PQM30017-8	SLIT WASHER	
62	PQ35083-2	REEL BRACKET	
63	PQM30017-51	SLIT WASHER	
64	PQ35026-1-7	IDLER LEVER	

Symbol No.	Part No.	Part Name	Description
65	PQ11659-2	SLIDE PLATE	M2.6 x 6
66	PQ21686-1-3	T-UP LEVER	
68	PQ46345-1-2	T-UP HEAD	
69	SPST2606Z	SCREW	
70	PQM30003-39	BELT(LOADING)	
71	PQ21699-1-2	WORM BEARING	M2.6 x 8
72	PGZ02537-01-02	CAPSTAN MOTOR	
73	SPSG2608Z	SCREW	
74	PRD30024-98	TEN.SPRING 98	
75	PQM30017-25	SLIT WASHER	
76	PQ46354	CHANGE GEAR	
77	PQM30001-386	TEN. SPRING 386	
78	PQM30003-40	BELT(HOUSING)	
79	LP40008-001B	CASSETTE GEAR	
80	PQ35030-1-5	LID GUIDE	
81	LP20032-001A	L.E.D. PRISM	M2.6 x 10
82	PEHE0237	FULL ERASE HEAD	
83	SDST2610Z	SCREW	
84	PU61432-1-1	ROTARY ENCODER	
85	PQ46473-1-1	S-SW PIN	
86	PQ46474-1-2	S-SW HOLDER	M2.6 x 6
87	SPST2606Z	SCREW	
88	PRD20622A	MAIN DECK ASSEMBLY	
89	PQ46298A-5	TENSION BAND	
90	PQ46303B-8	TENSION ARM ASSEMBLY	
91	PQ46305B-03	M.BRAKE(S) ASSEMBLY	
92	PRD45108A	S.BRAKE(S) ASSEMBLY	
93	PQ46308A-05	M.BRAKE(T) ASSEMBLY	
94	PRD45112A	S.BRAKE(T) ASSEMBLY	
95	PRD31304-02	REEL DISK(S)	
96	PQM30018-74	SPACER	
97	PQ46552	SPRING	
98	PQ46553	REEL CAP	
99	PRD31304	REEL DISK(T)	
100	PQ46552	SPRING	
101	PQ46553	REEL CAP	
102	PQ46497B-2	PULLEY ASSEMBLY	
103	PQ46312B-11	IDLER ARM ASSEMBLY	
104	PRD45134A	CLUTCH UNIT(S)	
105	PQ46323A-1	CLUTCH UNIT(T)	
106	PQ46325D	GUIDE ARM ASSEMBLY	M2.6 x 8
107	PQ46327A-4	P.R.ARM ASSEMBLY	
108	PEHE0182	AUDIO CTL HEAD	
109	PQ35206-1-3	HEAD BASE	
110	PQ43687A	SCREW	
111	PQM30002-192	COMP.SPRING 192	
112	PQ46330C-10	P.BASE ASSEMBLY(S)	
113	PQ46331D	P.BASE ASSEMBLY(T)	
114	PQ46332B-3	L.ARM ASSEMBLY(S)	
115	PQ46337C	L.ARM ASSEMBLY(T)	
116	PQ46342B-10	LEVER ASSEMBLY	M3 x 5
117	PQ46344B	CHAN.LEVER ASSEMBLY	
118	PU60628-3-2	LOADING MOTOR	
119	PQ43546-1-2	MOTOR PULLEY	
120	SDSP3005Z	SCREW	
121	PRD20626-01-05	GUIDE BRACKET	
122	PQ46395B	WORM GEAR	
123	PRD45049A	C.B.ARM ASSEMBLY	
124	PQ46353A-2	CHANGE ARM	
125	PRD45179	SPACER	

SECTION 6

ELECTRICAL PARTS LIST

SAFETY PRECAUTION:

Parts identified by the $\triangle$ symbol are critical for safety. Replace only with specified parts numbers.

For maximum reliability and performance, all other replacement parts should be identical to those specified.

NOTE:

- Parts not denoted by parts numbers are not supplied by JVC.
- Abbreviations in this list are as follows:

RESISTORS

In the "Description" column:

- All resistance values are in ohms (Ω).
- k expresses kilo-ohm (1 000 ohms, $k\Omega$).
- M expresses mega-ohm (10^6 ohms, $M\Omega$).

In the "Parts Name" column:

- CAR.RESISTOR : Carbon Resistor
- C.M.F.RESISTOR : Constant Metalized Film Resistor
- COMP.RESISTOR : Composition Resistor
- FUSI.RESISTOR : Fusible Resistor
- M.F.RESISTOR : Metal Film Resistor
- M.G.RESISTOR : Metal Graze Resistor
- M.P.RESISTOR : Metal Plate Resistor
- O.M.F.RESISTOR : Oxide Metalized Film Resistor
- TRIM.RESISTOR : Trimerer Resistor
- U.F.RESISTOR : Non-inflammable Resistor
- VAL.RESISTOR : Valiable Resistor
- W.W.RESISTOR : Wire Wound Resistor

CAPACITORS

In the "Description" column:

- All capacitance values are in microfarad (μF) unless otherwise indicated.
- p expresses picofarad (10^{-12} farad, pF).

In the "Parts Name" column:

- CER.CAPACITOR : Ceramic Capacitor
- E.CAPACITOR : Electrolytic Capacitor
- FILM CAPACITOR : Film Capacitor
- M.F.CAPACITOR : Metalized Film Capacitor
- MICA CAPACITOR : Mica Capacitor
- MPP CAPACITOR : Metalized PolyPropylene Capacitor
- MPPS CAPACITOR : Metalized PolyPhenylene Sulfied film Capacitor
- M.M.CAPACITOR : Metalized Mylar Capacitor
- MYLAR CAPACITOR : Mylar Capacitor
- N.P.CAPACITOR : Non-Poler electrolytic Capacitor
- P.P.CAPACITOR : PolyPropylene Capacitor
- PPS CAPACITOR : PolyPhenylene Sulfied film Capacitor
- P.S.CAPACITOR : PolyStyrene Capacitor
- TAN.CAPACITOR : Tantal Capacitor
- TRIM.CAPACITOR : Trimer Capacitor
- VAL.CAPACITOR : Valiable Capacitor

6.1 MAIN BOARD ASSEMBLY PARTS LIST 03

SLK1113-00A

03

Symbol No.	Part No.	Part Name	Description
IC1	JCP0056	I.C.(M)	JVC
IC2	AN3969K	I.C.(M)	MATSUSHITA
IC3	BA6138	I.C.(M)	ROHM
IC101	BA7795LS	I.C.(M)	ROHM
IC171	M51132L	I.C.(M)	MITSUBISHI
IC172	BA15218	I.C.(M)	ROHM
IC261	TC7S08F-X	I.C.(M)	TOSHIBA
IC301	UPD6454CS-513	I.C.(M)	NEC
IC351	MM1117XS	I.C.(M)	MITSUMI
IC352	BA7623F-X	I.C.(M)	ROHM
IC353	BA7623F-X	I.C.(M)	ROHM
IC401	BU2884BS	I.C.(M)	ROHM
IC451	BA7039	I.C.(M)	ROHM
IC601	HD6473927F-301	I.C.(M)	HITACHI
IC602	BR93LC56A	I.C.(M)	ROHM
IC603	S-80728AN-Z	I.C.(M)	SEIKO
IC604	TA7291S	I.C.(M)	TOSHIBA
IC607	M50253P	I.C.(M)	MITSUBISHI
IC608	TC4021BP	I.C.(M)	TOSHIBA
IC751	M37470E8-101SP	I.C.(M)	MITSUBISHI
Q1	DTC114TUA-X	TRANSISTOR	ROHM
Q2	DTC114TUA-X	TRANSISTOR	ROHM
Q3	DTC114TUA-X	TRANSISTOR	ROHM
Q4	DTC114TUA-X	TRANSISTOR	ROHM
Q101	DTC114EUA-X	TRANSISTOR	ROHM
Q131	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q132	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q133	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q134	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q135	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q171	DTC323TK-X	TRANSISTOR	ROHM
Q172	DTC323TK-X	TRANSISTOR	ROHM
Q201	DTC144WUA-X	TRANSISTOR	ROHM
Q203	DTC144WUA-X	TRANSISTOR	ROHM
Q221	DTC144EUA-X	TRANSISTOR	ROHM
Q222	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q223	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q241	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q242	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q243	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q244	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q261	DTC144WUA-X	TRANSISTOR	ROHM
Q262	DTC144EUA-X	TRANSISTOR	ROHM
Q263	DTC144WUA-X	TRANSISTOR	ROHM
Q264	DTA124EUA-X	TRANSISTOR	ROHM
Q265	DTC124EUA-X	TRANSISTOR	ROHM
Q301	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q302	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q351	DTA144EUA-X	TRANSISTOR	ROHM
Q401	DTC114EUA-X	TRANSISTOR	ROHM
Q601	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q602	LP40038-001A	TRANSISTOR	JVC
Q603	LP40038-001A	TRANSISTOR	JVC
Q604	DTC124EUA-X	TRANSISTOR	ROHM
Q605	DTC124EUA-X	TRANSISTOR	ROHM
Q606	DTC143EUA-X	TRANSISTOR	ROHM
Q851	2SD1266/QP/	TRANSISTOR	MATSUSHITA
Q852	2SC1740S/RS/-T	TRANSISTOR	ROHM
Q853	2SC3616/MLK/-T	TRANSISTOR	NEC
Q854	DTA114EUA-X	TRANSISTOR	ROHM
Q855	2SD2144S(UVW)-T	TRANSISTOR	ROHM
Q859	2SD1450/ST/-T	TRANSISTOR	MATSUSHITA
Q885	DTC143TUA-X	TRANSISTOR	ROHM
Q886	2SB1333-T	TRANSISTOR	ROHM
D1	HZM11NB1-W	ZENER DIODE	HITACHI
D2	HZM11NB1-W	ZENER DIODE	HITACHI
D3	HZM11NB1-W	ZENER DIODE	HITACHI
D4	HZM11NB1-W	ZENER DIODE	HITACHI
D5	HZM11NB1-W	ZENER DIODE	HITACHI
D6	HZM11NB1-W	ZENER DIODE	HITACHI
D101	RD6.2ES/B2/-T2	ZENER DIODE	NEC

Symbol No.	Part No.	Part Name	Description
D102	DAP202U-X	DIODE	ROHM
D103	DAP202U-X	DIODE	ROHM
D201	DAP202U-X	DIODE	ROHM
D261	1SS356-X	DIODE	ROHM
D262	1SS133K-T2	DIODE	ROHM
D263	1SS133K-T2	DIODE	ROHM
D266	DA204U-X	DIODE	ROHM
D267	1SS133K-T2	DIODE	ROHM
D351	1SS133K-T2	DIODE	ROHM
D601	11ES2-T2	DIODE	INTER
D602	11ES2-T2	DIODE	INTER
D603	RD9.1ES/B2/-T2	ZENER DIODE	NEC
D604	1SS133K-T2	DIODE	ROHM
D605	1SS133K-T2	DIODE	ROHM
D606	1SS133K-T2	DIODE	ROHM
D607	1SS133K-T2	DIODE	ROHM
D608	1SS133K-T2	DIODE	ROHM
D609	SIR-381SB3FX1M	LE DIODE	ROHM
D611	RB721Q-40-X	DIODE	ROHM
D612	1SS133K-T2	DIODE	ROHM
D801	10E6-FA8	DIODE	INTER
D802	10E6-FA8	DIODE	INTER
D803	10E6-FA8	DIODE	INTER
D804	10E6-FA8	DIODE	INTER
D851	11ES2-T2	DIODE	INTER
D852	11ES2-T2	DIODE	INTER
D853	11ES2-T2	DIODE	INTER
D862	RD5.1JS/B1/-T2	ZENER DIODE	NEC
D863	1SS133K-T2	DIODE	ROHM
D885	11ES2-T2	DIODE	INTER
R1	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R2	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R3	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R4	NRSA02J-392X	M.G.RESISTOR	3.9k 1/10W
R5	NRVA02D-153X	C.M.F.RESISTOR	15k 1/10W
R6	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R7	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R8	NRSA02J-334X	M.G.RESISTOR	330k 1/10W
R11	NRVA02D-113X	C.M.F.RESISTOR	11k 1/10W
R12	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R13	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R14	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R15	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W
R16	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R17	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R28	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R29	NRSA02J-392X	M.G.RESISTOR	3.9k 1/10W
R30	NRSA02J-392X	M.G.RESISTOR	3.9k 1/10W
R31	NRSA02J-392X	M.G.RESISTOR	3.9k 1/10W
R32	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R33	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R34	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R35	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R39	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R40	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R61	NRSA02J-393X	M.G.RESISTOR	39k 1/10W
R62	NRSA02J-203X	M.G.RESISTOR	20k 1/10W
R63	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R64	NRSA02J-393X	M.G.RESISTOR	39k 1/10W
R65	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R66	NRSA02J-203X	M.G.RESISTOR	20k 1/10W
R72	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R73	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R81	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R82	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R83	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R84	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R102	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R103	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R104	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R105	NRSA02J-393X	M.G.RESISTOR	39k 1/10W

[MAIN]

Symbol No.	Part No.	Part Name	Description
R106	NRSA02J-122X	M.G.RESISTOR	1.2k 1/10W
R107	NRSA02J-153X	M.G.RESISTOR	15k 1/10W
R108	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R109	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R110	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R111	NRSA02J-151X	M.G.RESISTOR	150 1/10W
R112	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R113	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R114	NRSA02J-475X	M.G.RESISTOR	4.7M 1/10W
R115	QRE141J-221Y	CAR.RESISTOR	220 1/4W
R116	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R117	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R118	NRSA02J-274X	M.G.RESISTOR	270k 1/10W
R119	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R120	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R121	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R131	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R132	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R133	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R134	NRSA02J-153X	M.G.RESISTOR	15k 1/10W
R135	NRSA02J-3R3X	M.G.RESISTOR	3.3 1/10W
R136	NRSA02J-333X	M.G.RESISTOR	33k 1/10W
R137	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R138	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R139	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R140	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R141	QRE141J-101Y	CAR.RESISTOR	100 1/4W
R142	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R143	QRE141J-151Y	CAR.RESISTOR	150 1/4W
R144	NRSA02J-3R3X	M.G.RESISTOR	3.3 1/10W
R145	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R146	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R147	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W
R148	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W
R149	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R171	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R172	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R173	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R174	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R175	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R176	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R177	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R178	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R179	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R180	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R181	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R182	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R183	NRSA02J-330X	M.G.RESISTOR	33 1/10W
R184	NRSA02J-330X	M.G.RESISTOR	33 1/10W
R185	NRSA02J-391X	M.G.RESISTOR	390 1/10W
R186	NRSA02J-151X	M.G.RESISTOR	150 1/10W
R201	NRSA02J-363X	M.G.RESISTOR	36k 1/10W
R202	NRSA02J-822X	M.G.RESISTOR	8.2k 1/10W
R203	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R205	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R207	NRSA02J-224X	M.G.RESISTOR	220k 1/10W
R209	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R221	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R222	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R223	NRSA02J-122X	M.G.RESISTOR	1.2k 1/10W
R224	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R225	NRSA02J-153X	M.G.RESISTOR	15k 1/10W
R226	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R227	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R228	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R229	NRSA02J-822X	M.G.RESISTOR	8.2k 1/10W
R230	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R231	NRSA02J-270X	M.G.RESISTOR	27 1/10W
R232	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R233	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R241	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R242	NRSA02J-333X	M.G.RESISTOR	33k 1/10W
R243	NRSA02J-333X	M.G.RESISTOR	33k 1/10W

Symbol No.	Part No.	Part Name	Description
R244	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R245	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R246	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R247	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R248	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R249	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R250	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R252	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R261	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R262	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R263	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R264	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R265	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R266	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R267	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R270	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R271	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R272	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R273	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R274	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R275	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R276	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R301	NRSA02J-822X	M.G.RESISTOR	8.2k 1/10W
R302	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R303	NRSA02J-154X	M.G.RESISTOR	150k 1/10W
R305	NRSA02J-563X	M.G.RESISTOR	56k 1/10W
R306	NRSA02J-224X	M.G.RESISTOR	220k 1/10W
R307	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R308	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R309	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R310	NRSA02J-680X	M.G.RESISTOR	68 1/10W
R311	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R312	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R313	NRSA02J-122X	M.G.RESISTOR	1.2k 1/10W
R314	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R315	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R316	NRSA02J-153X	M.G.RESISTOR	15k 1/10W
R317	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R318	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R319	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R351	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R352	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R353	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R354	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R355	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R356	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R357	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R358	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R359	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R360	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R361	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R362	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R363	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R364	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R365	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R368	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R369	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R370	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R371	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R401	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R402	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R403	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R404	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R405	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R406	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R408	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R409	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R410	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R411	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R412	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R413	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R414	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R415	NRSA02J-103X	M.G.RESISTOR	10k 1/10W

Symbol No.	Part No.	Part Name	Description
R418	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R451	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R452	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R453	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R454	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R455	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R456	NRSA02J-124X	M.G.RESISTOR	120k 1/10W
R602	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R603	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R604	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R605	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R606	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R607	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R608	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R609	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R610	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R611	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R612	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R613	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R614	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R615	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R616	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R617	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R618	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R619	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R621	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R622	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R623	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R624	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R625	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R626	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R627	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R628	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R629	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R630	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R631	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R632	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R633	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R634	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R635	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R636	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R637	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R638	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R639	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R641	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R643	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R644	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R645	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R646	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R647	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R648	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R649	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R650	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R651	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R652	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R654	NRSA02J-272X	M.G.RESISTOR	2.7k 1/10W
R655	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R658	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R659	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R661	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R662	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R663	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R664	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R665	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R667	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R668	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R669	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R671	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R672	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R673	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R674	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R675	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R676	NRSA02J-103X	M.G.RESISTOR	10k 1/10W

Symbol No.	Part No.	Part Name	Description
R682	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R684	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R685	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R686	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R687	QRE141J-750Y	CAR.RESISTOR	75 1/4W
R688	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R692	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R693	NRSA02J-333X	M.G.RESISTOR	33k 1/10W
R696	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R699	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R700	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R701	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R702	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R703	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R704	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R705	NRSA02J-333X	M.G.RESISTOR	33k 1/10W
R706	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R707	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R708	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R709	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R710	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R712	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R715	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R716	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R717	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R718	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R719	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R720	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R721	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R722	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R723	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R724	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R725	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R726	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R727	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R751	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R752	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R753	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R754	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R755	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R756	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R757	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R758	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R759	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R760	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R761	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R762	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R763	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R764	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R765	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R776	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R777	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R778	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R779	NRSA02J-474X	M.G.RESISTOR	470k 1/10W
R801	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W
R855	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R856	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R858	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R859	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R860	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R861	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R863	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R864	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R865	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W
R866	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R868	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R872	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R885	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R896	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R897	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R898	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W

[MAIN]

Symbol No.	Part No.	Part Name	Description
VR1	PGZ02461-104	V.RESISTOR	100k A LEV(L)
VR2	PGZ02461-104	V.RESISTOR	100k A LEV(R)
VR301	PGZ02461-333	V.RESISTOR	33k fH
VR801	PGZ02461-471	V.RESISTOR	470 SWD 5V
C1	QEK61CM-476Z	E.CAPACITOR	47 16V
C2	NCB21EK-473X	CER.CAPACITOR	0.047 25V
C3	QEK61CM-106Z	E.CAPACITOR	10 16V
C4	QEK61CM-107Z	E.CAPACITOR	100 16V
C5	NCB21HK-153X	CER.CAPACITOR	0.015 50V
C6	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C7	NCB21EK-104X	CER.CAPACITOR	0.1 25V
C8	QETC1AM-107Z	E.CAPACITOR	100 10V
C9	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C10	NDC21HJ-100X	CER.CAPACITOR	10p 50V
C11	NDC21HJ-100X	CER.CAPACITOR	10p 50V
C12	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C13	NCB21EK-473X	CER.CAPACITOR	0.047 25V
C14	QEK61HM-224Z	E.CAPACITOR	0.22 50V
C15	NCB21EK-104X	CER.CAPACITOR	0.1 25V
C16	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C17	QEK61CM-107Z	E.CAPACITOR	100 16V
C18	NCB21HK-153X	CER.CAPACITOR	0.015 50V
C19	QEK61CM-107Z	E.CAPACITOR	100 16V
C20	QEK61CM-106Z	E.CAPACITOR	10 16V
C21	NCB21EK-473X	CER.CAPACITOR	0.047 25V
C22	QEK61CM-476Z	E.CAPACITOR	47 16V
C23	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C24	QEK61CM-476Z	E.CAPACITOR	47 16V
C25	QEK61HM-105Z	E.CAPACITOR	1 50V
C26	NCS21HJ-102X	CER.CAPACITOR	1000p 50V
C27	QEK61CM-476Z	E.CAPACITOR	47 16V
C28	QEK61CM-106Z	E.CAPACITOR	10 16V
C29	QEK61AM-107Z	E.CAPACITOR	100 10V
C30	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C35	QEP61CM-106Z	N.P.CAPACITOR	10 16V
C36	QEP61CM-106Z	N.P.CAPACITOR	10 16V
C38	QEK61CM-476Z	E.CAPACITOR	47 16V
C39	QEK61CM-476Z	E.CAPACITOR	47 16V
C40	NCB21EK-124X	CER.CAPACITOR	0.12 25V
C41	NCB21EK-124X	CER.CAPACITOR	0.12 25V
C42	NCB21EK-823X	CER.CAPACITOR	0.082 25V
C43	NCB21EK-823X	CER.CAPACITOR	0.082 25V
C44	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C45	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C46	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C47	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C61	QEK61CM-106Z	E.CAPACITOR	10 16V
C62	QEK61CM-106Z	E.CAPACITOR	10 16V
C63	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C64	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C67	QEK61CM-476Z	E.CAPACITOR	47 16V
C68	QEK61CM-476Z	E.CAPACITOR	47 16V
C69	NCB21EK-393X	CER.CAPACITOR	0.039 25V
C72	QDX11EK-104Z	CER.CAPACITOR	0.1 25V
C73	NCB21EK-393X	CER.CAPACITOR	0.039 25V
C81	QEK61CM-226Z	E.CAPACITOR	22 16V
C82	QEK61CM-226Z	E.CAPACITOR	22 16V
C83	QEK61CM-476Z	E.CAPACITOR	47 16V
C84	QEK61CM-106Z	E.CAPACITOR	10 16V
C85	QEK61CM-106Z	E.CAPACITOR	10 16V
C101	NCS21HJ-222X	CER.CAPACITOR	2200p 50V
C102	QEK61CM-476Z	E.CAPACITOR	47 16V
C103	NDC21HJ-681X	CER.CAPACITOR	680p 50V
C104	QEK61HM-105Z	E.CAPACITOR	1 50V
C105	QCC11EJ-153Z	CER.CAPACITOR	0.015 25V
C106	QCC11EJ-153Z	CER.CAPACITOR	0.015 25V
C107	QEK61HM-475Z	E.CAPACITOR	4.7 50V
C108	NDC21HJ-681X	CER.CAPACITOR	680p 50V
C109	NCB21HK-123X	CER.CAPACITOR	0.012 50V
C110	QEK61CM-226Z	E.CAPACITOR	22 16V
C111	QDX11EJ-223Z	CER.CAPACITOR	0.022 25V
C112	QEK61CM-226Z	E.CAPACITOR	22 16V

Symbol No.	Part No.	Part Name	Description
C113	QEK61HM-106Z	E.CAPACITOR	10 50V
C114	QDX31EJ-472Z	CER.CAPACITOR	4700p 25V
C115	QEK61CM-476Z	E.CAPACITOR	47 16V
C116	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C117	NCB21HK-182X	CER.CAPACITOR	1800p 50V
C118	QEK61HM-105Z	E.CAPACITOR	1 50V
C131	NDC21HJ-331X	CER.CAPACITOR	330p 50V
C132	QFN31HJ-333Z	M.F.CAPACITOR	0.033 50V
C133	QEK61CM-107Z	E.CAPACITOR	100 16V
C134	NCB21HK-332X	CER.CAPACITOR	3300p 50V
C135	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C136	QFN31HJ-333Z	M.F.CAPACITOR	0.033 50V
C137	QEK61HM-106Z	E.CAPACITOR	10 50V
C138	NCB21HK-332X	CER.CAPACITOR	3300p 50V
C139	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C171	QEK61CM-106Z	E.CAPACITOR	10 16V
C172	QEK61CM-106Z	E.CAPACITOR	10 16V
C173	QEK61CM-226Z	E.CAPACITOR	22 16V
C174	QEK61CM-476Z	E.CAPACITOR	47 16V
C175	QEK61CM-106Z	E.CAPACITOR	10 16V
C176	QEK61CM-106Z	E.CAPACITOR	10 16V
C177	NCB21HK-272X	CER.CAPACITOR	2700p 50V
C178	QEK61EM-475Z	E.CAPACITOR	4.7 25V
C179	NCB21HK-272X	CER.CAPACITOR	2700p 50V
C180	QEK61EM-475Z	E.CAPACITOR	4.7 25V
C181	QEK60JM-107Z	E.CAPACITOR	100 6.3V
C182	QEK60JM-107Z	E.CAPACITOR	100 6.3V
C183	QEK61CM-476Z	E.CAPACITOR	47 16V
C184	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C185	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C186	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C187	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C201	QER60JM-107Z	E.CAPACITOR	100 6.3V
C202	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C203	NDC21HJ-470X	CER.CAPACITOR	47p 50V
C204	NDC21HJ-100X	CER.CAPACITOR	10p 50V
C205	NDC21HJ-330X	CER.CAPACITOR	33p 50V
C207	NDC21HJ-270X	CER.CAPACITOR	27p 50V
C221	QER60JM-107Z	E.CAPACITOR	100 6.3V
C222	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C223	NDC21HJ-680X	CER.CAPACITOR	68p 50V
C224	NDC21HJ-180X	CER.CAPACITOR	18p 50V
C225	NDC21HJ-151X	CER.CAPACITOR	150p 50V
C226	NDC21HJ-220X	CER.CAPACITOR	22p 50V
C227	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C228	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C229	NDC21HJ-821X	CER.CAPACITOR	820p 50V
C230	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C241	QER60JM-107Z	E.CAPACITOR	100 6.3V
C242	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C243	NDC21HJ-390X	CER.CAPACITOR	39p 50V
C244	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C245	NDC21HJ-390X	CER.CAPACITOR	39p 50V
C246	NCB21HK-473X	CER.CAPACITOR	0.047 50V
C247	NDC21HJ-560X	CER.CAPACITOR	56p 50V
C248	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C261	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C262	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C263	NDC21HJ-330X	CER.CAPACITOR	33p 50V
C264	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C265	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C266	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C267	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C268	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C269	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C270	NDC21HJ-121X	CER.CAPACITOR	120p 50V
C271	NDC21HJ-181X	CER.CAPACITOR	180p 50V
C301	QEK61HM-335Z	E.CAPACITOR	3.3 50V
C302	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C303	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C304	NDC21HJ-221X	CER.CAPACITOR	220p 50V
C305	NCB21HK-103X	CER.CAPACITOR	0.01 50V

Symbol No.	Part No.	Part Name	Description	
C306	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C307	QEK61HM-105Z	E.CAPACITOR	1	50V
C308	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C309	NDC21HJ-271X	CER.CAPACITOR	270p	50V
C310	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C311	QEK61HM-105Z	E.CAPACITOR	1	50V
C312	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C313	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C314	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C315	NDC21HJ-220X	CER.CAPACITOR	22p	50V
C316	NDC21HJ-390X	CER.CAPACITOR	39p	50V
C317	NDC21HJ-390X	CER.CAPACITOR	39p	50V
C318	QEK61CM-106Z	E.CAPACITOR	10	16V
C319	NDC21HJ-330X	CER.CAPACITOR	33p	50V
C320	NDC21HJ-220X	CER.CAPACITOR	22p	50V
C321	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C351	QETC1HM-106Z	E.CAPACITOR	10	50V
C352	QETC1HM-106Z	E.CAPACITOR	10	50V
C353	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C354	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C355	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C356	QETNOJM-108Z	E.CAPACITOR	1000	6.3V
C357	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C358	QETNOJM-108Z	E.CAPACITOR	1000	6.3V
C359	QETNOJM-108Z	E.CAPACITOR	1000	6.3V
C360	QEK60JM-476Z	E.CAPACITOR	47	6.3V
C361	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C362	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C363	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C364	QETC1CM-106Z	E.CAPACITOR	10	16V
C365	QEK60JM-476Z	E.CAPACITOR	47	6.3V
C366	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C367	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C368	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C371	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C372	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C373	QETC1AM-476Z	E.CAPACITOR	47	10V
C374	QETC1AM-476Z	E.CAPACITOR	47	10V
C401	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C402	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C403	NCB21EK-563X	CER.CAPACITOR	0.056	25V
C404	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C405	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C406	QEK61CM-106Z	E.CAPACITOR	10	16V
C407	QEK61CM-106Z	E.CAPACITOR	10	16V
C408	QEK60JM-107Z	E.CAPACITOR	100	6.3V
C409	NCB21HK-223X	CER.CAPACITOR	0.022	50V
C411	NCB21HK-222X	CER.CAPACITOR	2200p	50V
C412	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C413	NCB11CK-105X	CER.CAPACITOR	1	16V
C414	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C415	QEK61CM-106Z	E.CAPACITOR	10	16V
C416	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C417	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C451	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C452	QFV11HJ-104Z	T.F. CAPACITOR	0.1	50V
C453	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C454	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C455	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C456	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C457	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C458	QER61CM-106Z	E.CAPACITOR	10	16V
C459	QFV11HJ-104Z	T.F. CAPACITOR	0.1	50V
C602	NDC21HJ-180X	CER.CAPACITOR	18p	50V
C604	QER61AM-107Z	E.CAPACITOR	100	10V
C607	NDC21HJ-471X	CER.CAPACITOR	470p	50V
C610	QER61CM-106Z	E.CAPACITOR	10	16V
C611	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C613	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C614	NCB21EK-473X	CER.CAPACITOR	0.047	25V
C616	QEK61CM-106Z	E.CAPACITOR	10	16V
C617	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C622	QER60JM-107Z	E.CAPACITOR	100	6.3V

Symbol No.	Part No.	Part Name	Description	
C623	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C624	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C625	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C635	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C636	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C651	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C652	NCB21HK-473X	CER.CAPACITOR	0.047	50V
C653	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C654	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C656	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C751	NDC21HJ-220X	CER.CAPACITOR	22p	50V
C752	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C753	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C754	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C755	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C756	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C757	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C758	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C759	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C760	QER61HM-335Z	E.CAPACITOR	3.3	50V
C761	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C762	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C763	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C801	QFZ9051-223	FILM CAPACITOR	0.022	
C802	QFZ9051-683	FILM CAPACITOR	0.068	
C803	QFZ9051-333	FILM CAPACITOR	0.033	
C810	PECA0738-107	E.CAPACITOR	-1p	
C862	QFN31HJ-102Z	M.F.CAPACITOR	1000p	50V
C863	QETC1AM-107Z	E.CAPACITOR	100	10V
C864	QETC1CM-226Z	E.CAPACITOR	22	16V
C865	QETC1AM-107Z	E.CAPACITOR	100	10V
C866	QETC1HM-106Z	E.CAPACITOR	10	50V
C867	QETC1CM-107Z	E.CAPACITOR	100	16V
C868	QETC1CM-476Z	E.CAPACITOR	47	16V
C870	QETC1CM-107Z	E.CAPACITOR	100	16V
VC601	NAT3112-400RZ	TRIM.CAPACITOR	40p	CPU CLK
L1	PU59988-3R9JY	COIL	3.9uH	
L2	PU59988-3R9JY	COIL	3.9uH	
L6	QQL01BJ-100Z	COIL	10uH	
L7	QQL01BJ-100Z	COIL	10uH	
L101	QQL25CJ-123Z	COIL	12mH	
L201	QQL01BJ-102Z	COIL	1mH	
L202	QQL071J-101Y	COIL	100uH	
L203	QQL071J-560Y	COIL	56uH	
L204	PU59988-151JY	COIL	150uH	
L205	QQL071J-560Y	COIL	56uH	
L221	PELN0975-101JZ	COIL	100uH	
L222	QQL071J-560Y	COIL	56uH	
L223	PU59988-470JY	COIL	47uH	
L224	QQL071J-101Y	COIL	100uH	
L241	PELN0975-101JZ	COIL	100uH	
L242	QQL01BJ-222Z	COIL	2.2mH	
L243	QQL071J-221Y	COIL	220uH	
L261	PU59988-1R0JY	COIL	1uH	
L262	QQL071J-390Y	COIL	39uH	
L263	QQL071J-181Y	COIL	180uH	
L264	QQL01BJ-1R0Z	COIL	1uH	
L301	QQL01BJ-100Z	COIL	10uH	
L302	PU59988-1R0JY	COIL	1uH	
L303	PU59988-1R0JY	COIL	1uH	
L304	QQL20BJ-220	COIL	22uH	
L351	PELN0975-101JZ	COIL	100uH	
L352	PELN0975-101JZ	COIL	100uH	
L401	PU59988-470JY	COIL	47uH	
L451	QQL071J-270Y	COIL	27uH	
L601	QQL114M-R22Z	COIL	0.22uH	
L602	QQL071J-100Y	COIL	10uH	
L603	QQL01BJ-100Z	COIL	10uH	
L604	QQL01BJ-100Z	COIL	10uH	
L605	QQL01BJ-100Z	COIL	10uH	

[MAIN]

6.2 FG AMP BOARD ASSEMBLY PARTS LIST 5 6

SLK2072-00A

5 6 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
X301 X601	PGZ02043 PEVB0422	CRYSTAL CRYSTAL	17.734475MHz 32.768kHz
CF601 CF751	PEVB0497 PEVB0340	CERAMIC FILTER CERAMIC FILTER	10MHz
CN1	SSV1209-S02	CONNECTOR	2PIN
CN101	PU60910-2	CONNECTOR	2PIN
CN102	PU60910-7	CONNECTOR	7PIN
CN103	PEMC1102-005	CONNECTOR	5PIN
CN104	PEMC1102-006	CONNECTOR	6PIN
CN201	PEMC1055-014	CONNECTOR	14PIN
CN204	PEMC0846-010	CONNECTOR	10PIN
CN205	PEMC0846-012	CONNECTOR	12PIN
CN206	PEMC0846-012	CONNECTOR	12PIN
CN207	PEMC0846-006	CONNECTOR	6PIN
CN208	PEMC1055-014	CONNECTOR	14PIN
CN402	PEMC1102-004	CONNECTOR	4PIN
CN601	PU59555-107	CONNECTOR	7PIN
CN602	PU61434-1-1	CONNECTOR	5PIN
CN603	PU60910-2	CONNECTOR	2PIN
CN604	PU59555-12	CONNECTOR	12PIN
CN605	PEMC1102-008	CONNECTOR	8PIN
CN606	PU59555-2	CONNECTOR	2PIN
△CN801	PU60250-2	CONNECTOR	2PIN
CN802	PU59555-3	CONNECTOR	3PIN
TP1	SQMX001-001Z	TEST POINT	TP1-805
△CP401	ICP-N15-T	ICP	
△CP601	ICP-N25-T	ICP	
△CP801	ICP-N15-T	ICP	
△CP802	ICP-N25-T	ICP	
△CP803	ICP-N20-T	ICP	
FC801	SSV2497-001Z	FUSE HOLDER	
FC802	SSV2497-001Z	FUSE HOLDER	
JA1	PEMC1117	PIN JACK	INPUT
JA2	PGZ02465	PIN JACK	MONITOR OUT
JA3	PEMC1116	PIN JACK	OUTPUT
JA4	PEMC1118	S JACK	S OUTPUT
JA5	PEMC1118	S JACK	S INPUT
K1	PU60281-2Z	FERRITE BEADS	K1-K7
△LF801	PELN0885	LINE FILTER	
△LF802	PELN0876	LINE FILTER	
PS601	PU61433	REEL SENSOR	
PS602	PU61433	REEL SENSOR	
SP1	PGZ01377-03	STYLE PIN	TAKE UP
SP2	PGZ01377-03	STYLE PIN	SUPPLY
T101	PELN0860	OSC.TRANSF.	
T102	PELN0861	OSC.TRANSF.	
PD1	PRD30030-158	PAD	
PD2	PRD30030-151	PAD	
PD3	PRD30030-85	PAD	
SP3	PEME0947-01-02	SPACER	
HS1	PGZ02443	HEAT SINK	
SD1	PRD20580	SHIELD FRAME	

Symbol No.	Part No.	Part Name	Description
IC1	M5218AP	I.C.(M)	MITSUBISHI
IC2	TC4013BP	I.C.(M)	TOSHIBA
D1	1SS133K-T2	DIODE	ROHM
R1	QRE141J-332Y	CAR.RESISTOR	3.3k 1/4W
R2	QRE141J-334Y	CAR.RESISTOR	330k 1/4W
R3	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R4	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R5	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R6	QRE141J-473Y	CAR.RESISTOR	47k 1/4W
R7	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R8	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R9	QRE141J-473Y	CAR.RESISTOR	47k 1/4W
R10	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R11	QRE141J-272Y	CAR.RESISTOR	2.7k 1/4W
C1	QEK1CM-106Z	E.CAPACITOR	10 16V
C2	QCF31HZ-223Z	CER.CAPACITOR	0.022 50V
C3	QCF31HZ-103Z	CER.CAPACITOR	0.01 50V
C4	QFLC1HJ-823Z	MYLAR CAPACITOR	0.082 50V
C5	QCS31HJ-100Z	CER.CAPACITOR	10p 50V
C6	QCS31HJ-100Z	CER.CAPACITOR	10p 50V
C7	QCF31HZ-103Z	CER.CAPACITOR	0.01 50V
C8	QFLC1HJ-103Z	MYLAR CAPACITOR	0.01 50V
CN1	PU59973-12	CONNECTOR	12PIN
CN2	PU59555-7	CONNECTOR	7PIN



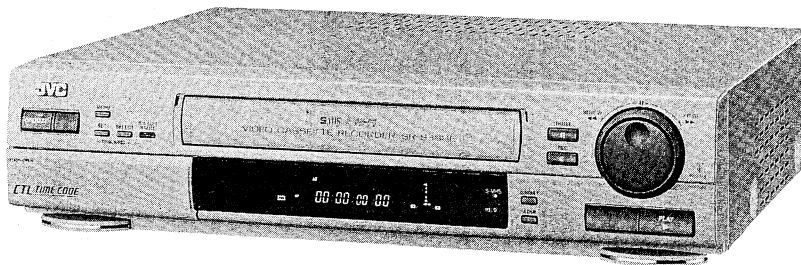
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JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

SR-S388E/EK/EC



S VHS

Hi-Fi

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded (■) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.

Caution for continued protection against fire hazard.

Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- | | | |
|--------------------|--------------------------------------|------------|
| 1) Insulation Tape | 3) Spacers | 5) Barrier |
| 2) PVC tubing | 4) Insulation sheets for transistors | |

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

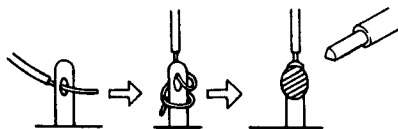


Fig. 1

7. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

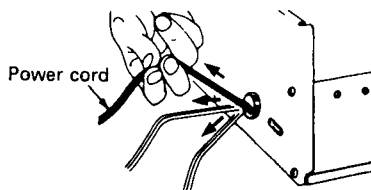


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number** : E03830-001

2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).

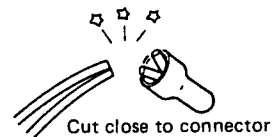


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

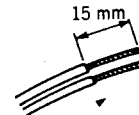


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

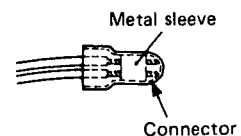


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

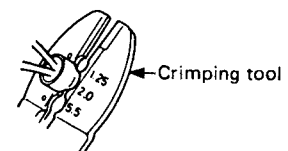


Fig. 6

(5) Check the four points noted in Fig. 7.

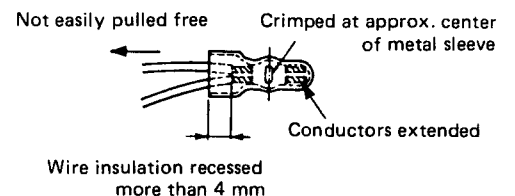


Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

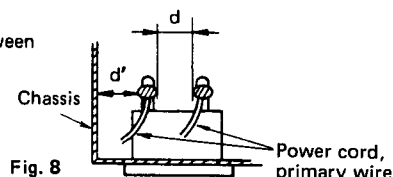
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

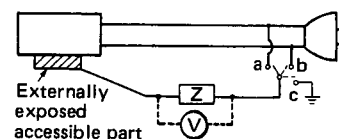


4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

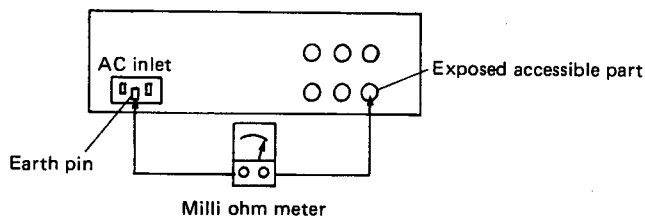


5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega / 500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	—	AC 900 V 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega / 500 \text{ V DC}$	AC 3 kV 1 minute (Class II)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class I)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
220 to 240 V		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

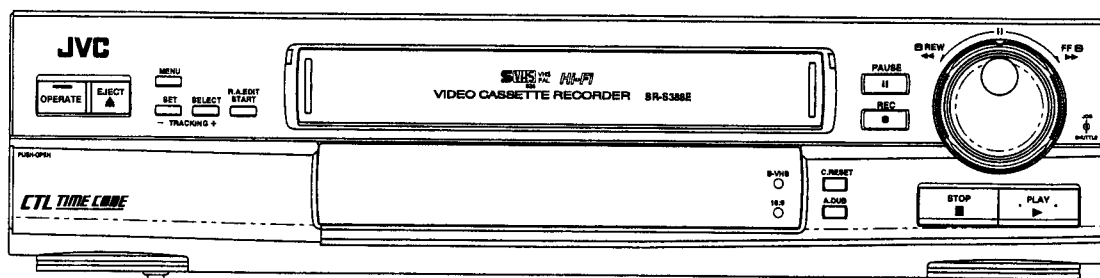
JVC

VIDEO CASSETTE RECORDER

SR-S388E/EK INSTRUCTIONS

Hi-Fi

SVHS VHS
625 PAL



SAFETY PRECAUTIONS

Warning Notice

FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT

Connection to the mains supply in the United Kingdom. DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain a proper safety approved extension lead/adaptor or consult your dealer.

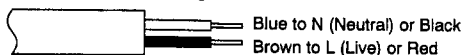
BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.

If nonetheless the mains plug is cut off remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below:

DO NOT make any connection to the Larger Terminal coded E or Green.

The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:

Blue wire to terminal coded N (Neutral) or coloured Black.

Brown wire to terminal coded L (Live) or coloured Red.

If in doubt — consult a competent electrician.

POWER SYSTEM

Connection to the mains supply

This unit operates on voltages of 220 to 240 V AC, 50/60 Hz.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:

The rating plate and the safety caution are on the rear of the unit.

The OPERATE button does not completely shut off mains power from the unit, but switches operating current on and off.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.



- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

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INTRODUCTION

Thank you for purchasing the JVC SR-S388E/EK Video Cassette Recorder. To obtain the best performance from your new video recorder, please read this instruction manual carefully before use.

MAJOR FEATURES

- **High-quality picture**
S-VHS recording/playback with more than 400 lines of horizontal resolution for professional-looking results in editing and dubbing.
- **Assemble/Insert editing facility (With optional RM-G800U Editing Controller connected)**
Simply connect the SR-S388E/EK and another deck to the RM-G800U Editing Controller (optional) for simple, inexpensive, and accurate editing.
- **Built-in CTL time code generator/reader**
Allows you to take advantage of error-proof editing in combination with the RM-G800U. (The CTL time code generator can be set only with the RM-G800U).
- **RS-232C Interface connector for remote operation**
VCR operation can be controlled from a connected personal computer. (LP mode recording is not available).
- **Audio dubbing facility**
Additional sound can be recorded on the normal audio track (monaural) of a previously recorded tape. (SP mode only)
- **Self audio dubbing facility**
Hi-Fi sound can be dubbed on the normal audio track (monaural) of the same recorded tape (SP mode only).
- **Random assemble editing facility**
Simply connect the SR-S388E/EK to the the remote pause connector of another VCR and you can edit up to 8 scenes automatically.
- **Shuttle/jog dial**
Slow-motion playback and variable-speed search are available in both forward and reverse directions for quick cueing.
- **Built-in TBC (Time Base Corrector)**
- **Two-channel Hi-Fi audio/One-channel Normal audio**
- **Hi-Fi sound recording ON/OFF switching available (menu switch)**
- **Digital hour meter display**
- **Wired remote controller (optional RM-G30U) available.**

Note:

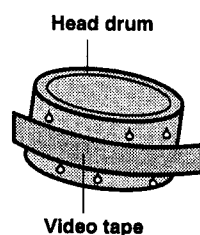
Use only RM-G800U models with an "X" next to the model name on the packing case and on the serial number plate on the bottom of the unit. If there is no "X" mark, the controller does not support CTL time code editing.

INTRODUCTION

PRECAUTIONS

VCR

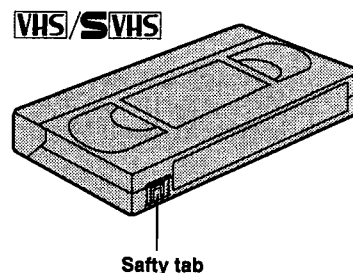
- DO NOT use the recorder in places subject to the following conditions:
 - extreme heat, cold, or humidity,
 - dust,
 - near appliances generating strong magnetic fields,
 - vibrations, or
 - poor ventilation.
- Be careful of moisture condensation.
DO NOT use the recorder immediately after moving it from a cold place to a warm place. This will cause water vapor to condense on the still-cold video head drum and tape guides and may damage the tape and the recorder.



- Handle the recorder carefully.
 - DO NOT block the ventilation openings.
 - DO NOT place anything heavy such as a monitor on the recorder.
 - DO NOT place liquids on the top of the recorder.
 - Use in horizontal (flat) position only.
- During transportation,
 - Avoid excessive shocks to the recorder during packing and transportation.
 - Before packing, be sure to remove the cassette from the recorder.
- Proper maintenance such as cleaning dust, adding oil, or replacing parts are necessary to obtain optimum performance and a longer service life. We recommend you do maintenance on a regular basis (once every 1000 hours). Total drum rotation hours can be checked via on-screen display or display (see page 18).

VIDEO CASSETTES

- This recorder uses S-VHS and VHS cassettes.
 - S-VHS : SE-180 for 180 minutes, SE-120 for 120 minutes, SE-60 for 60 minutes, and SE-30 for 30 minutes.
 - VHS : E-180 for 180 minutes, E-120 for 120 minutes, E-60 for 60 minutes, and E-30 for 30 minutes.
 - Use SE-180/E-180 tapes or shorter.
 - The optional cassette adapter (SA-CP11U) is required when using C-size cassettes. Use an SE-C30 or E-C30 cassette. Do not use a cassette with a longer recording time than SE-C30/E-C30.
- DO NOT expose the cassettes to direct sunlight. Keep them away from heaters.
- DO NOT expose the cassettes to extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet), or excessive dust.
- Place the cassettes in cassette cases and position vertically.
- To prevent accidental erasure, remove the cassette's safety tab. To record on a cassette whose safety tab has been removed, cover the hole with adhesive tape.

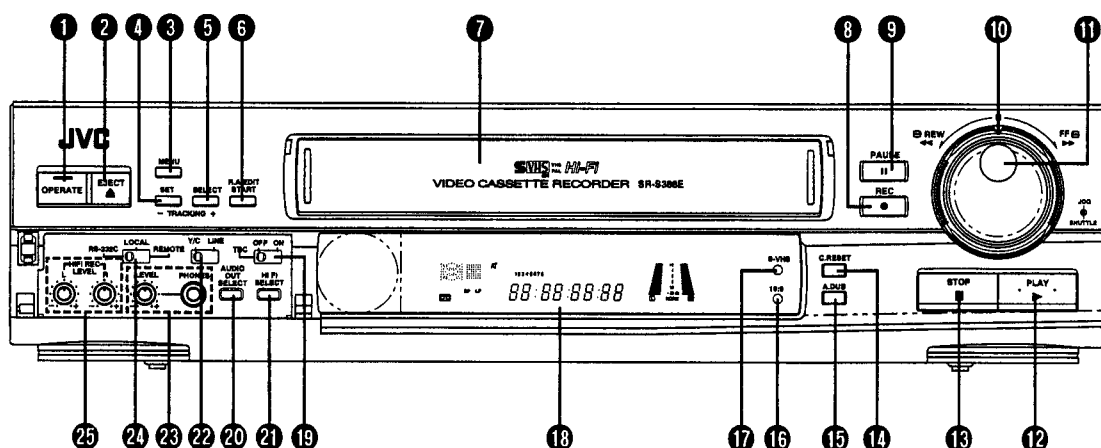


WARNING:

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable program and in any literary, dramatic, musical, or artistic work embodied therein.

CONTROLS AND FUNCTIONS

FRONT PANEL



1 OPERATE button (with LED)

Turns the power on and off. The LED on the button and the counter display light when the power is turned on.

The OPERATE button does not completely shut off mains power from the unit, but switches operating current on and off.

2 EJECT button

Ejects the cassette tape.

3 MENU button

- Activates the Menu Set mode and the program setting display for Random Assemble Editing (R.A.EDIT). Display panel and monitor screen change to the Menu Set mode.
- Displays the Menu Switch-2 setting display and the hour meter display when pressed with the Stop button.

4 SET/TRACKING- button

- Sets On-Screen Menu data or Random Assemble Editing (R.A.EDIT) programs.
- Adjusts tracking in playback. Also used for tracking adjustment in slow-motion playback.
- Suppresses vertical dancing of still pictures.

5 SELECT/TRACKING+ button

- Selects On-Screen Menu setting items or Random Assemble Editing (R.A.EDIT) items.
- Adjusts tracking in playback. Also used for tracking adjustment in slow mode.
- Suppresses vertical dancing of the still pictures.

6 R.A.EDIT START button

Starts random assemble editing. Lights during executing of random assemble editing.

7 Cassette loading slot

8 REC button

- Starts recording when pressed together with the PLAY button.
- When pressed and held in the Play mode, switches the monitor screen from playback picture to E-E display, enabling you to monitor the input video signal.

9 PAUSE button

- Temporarily stops recording when pressed in the Record mode. To re-start recording, press the PLAY button.
- Displays a still picture when pressed in the Play mode
- Advances the frame when pressed in the Still mode.
- Hold for two or more seconds to engage slow-motion playback. If the Still mode was entered from the Reverse Search mode, reverse slow-motion playback starts.

10 Shuttle search dial

Use the outer dial for shuttle search.

- In the Stop mode, turn clockwise to fast-forward the tape or counterclockwise to rewind the tape.
- In the Play or Still modes, turn clockwise to search in the forward direction, and counterclockwise to search in the reverse direction. The further the dial is rotated, the faster the search speed. Releasing the dial produces a still picture.
- Turning the dial as far as it will go and releasing it will engage continuous search at maximum speed (SP mode: 7X normal speed, LP mode: 7 X normal speed)

11 Jog dial

Use the inner dial for frame-by-frame jog search.

- In the Play or Still mode, turn clockwise for frame advance, and counterclockwise for frame reverse. Tape speed corresponds to how fast you rotate the dial. Releasing the dial produces a still picture.

CONTROLS AND FUNCTIONS

FRONT PANEL

12 PLAY button

- Starts playback.
- Starts recording when pressed with the REC button.
- Re-starts normal recording when pressed in the Record-Pause mode.
- Starts audio dubbing when pressed in the Audio Dubbing Standby mode.

13 STOP button

Stops the tape in any mode.

14 C.RESET (Counter reset) button

- Resets the CTL time counter to 00:00:00:00. (Menu Switch No. 352 COUNTER MODE must be set to CTL)
* CTL time code cannot be reset.
- Cancels Random Assemble Editing (R.A.EDIT) settings.

15 A.DUB (Audio dubbing) button

- Engages the Audio Dubbing Standby mode in the still mode. To start audio dubbing, press PLAY.

16 16:9 indicator

Lights when the screen size detection signal is recorded. You can turn this ON/OFF with menu switch No. 359 "16:9 REC". For details, refer to "Menu switch-2 details" on page 16.

17 [S-VHS] indicator

Whenever memory switch No. 100 "S-VHS SELECT" is set to "AUTO", this indicator lights in the REC or EE mode. If a VHS cassette is loaded or a tape is recorded or played back in the VHS mode, the S-VHS indicator goes off.

18 Display panel

Indicates Hi-Fi, audio level meter, operation status, and time counter. See page 8 "Display" for details.

19 TBC switch

Turns the TBC function ON/OFF. Effective only in the Play mode. The TBC has no effect in the Still and Search modes.

OFF : The TBC function is disabled.

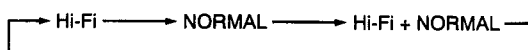
ON : The TBC function is enabled.

During play, a picture may move up and down on the monitor screen. This occurs when there is a comparatively large dropout on the tape and is not a malfunction.

The picture may be distorted if you play back a tape on which special signals (personal computer, some character generators, video games) have been recorded. In this case, set to OFF.

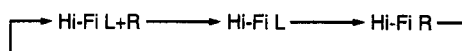
20 AUDIO OUT SELECT (Audio output select) button

- Selects the soundtrack output from the AUDIO OUT, AUDIO MONITOR OUT, and PHONES connectors. The soundtrack changes from Hi-Fi → NORMAL → Hi-Fi+NORMAL → Hi-Fi each time the button is pressed.



21 HI-FI SELECT (HiFi audio output select) button

- Selects the Hi-Fi audio channel when the Hi-Fi audio is selected with the AUDIO OUT SELECT button 20.
- The channel changes as follows each time the button is pressed.



22 Y/C.LINE (Video input Y/C. LINE) select switch

Y/C : To select the separate YC signals input to the rear-panel Y/C IN connector.

LINE : To select the composite video signal input to the rear-panel VIDEO LINE IN connector.

23 Headphone output section

- PHONES (Headphone) output connector
Connect to a headphone (3.5 dia, stereo). Audio signal selected with the 20 AUDIO OUT SELECT or 21 Hi-Fi OUT SELECT button is output.

- LEVEL headphones output level control knob
Adjusts the level of the audio output from the PHONES connector.

24 RS-232C/LOCAL/REMOTE select switch

Selects remote or local operation.

RS-232C : To operate the VCR via a computer connected to the RS-232C connector on the rear panel. The VCR cannot be operated with the front panel controls when this mode is selected.

(Except POWER,EJECT,STOP,TRACKING and AUDIO OUT/Hi-Fi SELECT buttons.)

LOCAL : To operate the VCR with the front panel controls. Remote operation is not possible.

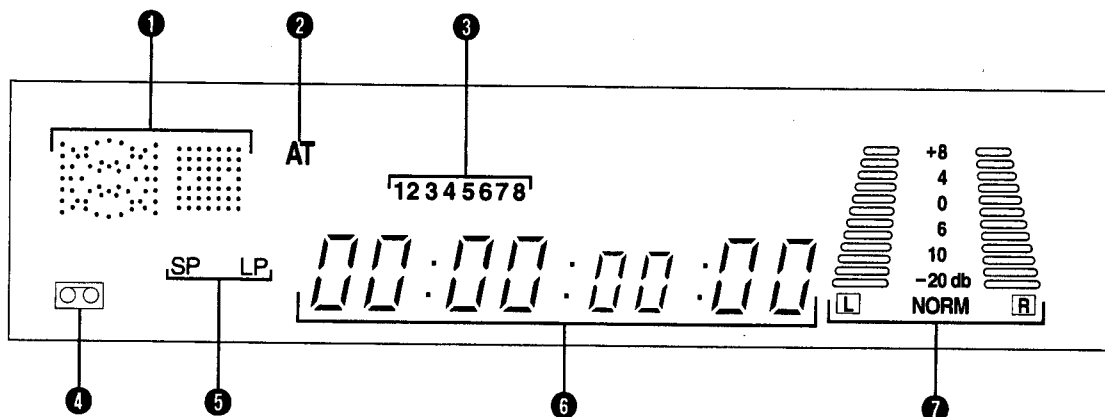
REMOTE : To operate the VCR with a remote control unit connected to the rear panel REMOTE connector or SERIAL REMOTE connector. The VCR cannot be operated with the front panel controls when this mode is selected. (Except POWER,EJECT,STOP,TRACKING and AUDIO OUT/Hi-Fi SELECT buttons.)

25 HI-FI REC LEVEL L/R adjust knob

Adjusts the Hi-Fi recording level for the L and R channels.

CONTROLS AND FUNCTIONS

DISPLAY SECTION



1 Operation modes

The operation modes are displayed as follows. Broken line indicates blinking display.

Play	Still	Record	Record pause	Audio dubbing	Fast-forward search	Assem mode
FF	Rewind	Slow play		Edit mode	Reverse search	
		Forward	Reverse			

* Insert is possible with the RM-G800U Editing Controller.

2 AT Indicator

Lights when memory switch No. 005 "AUTO TRACKING" is set to "ON".

3 Random Assemble Editing (R.A.EDIT) Program Numbers

Shows the program number of the random assemble edit currently being executed.

4 (Cassette)

- Lights when cassette is loaded.
- Blinks during unloading the cassette.

5 SP/LP

Indicates SP when recording and playing in the VHS Standard Play mode and LP in the Long Play mode.

* Select Record mode with Menu Switch No. 335 RECORDING MODE.

6 Counter

- Displays CTL counter or CTL time code. (Hour . Minute . Second . Frame)
- * CTL counter is reset to 0:00:00:00 when the cassette is loaded.
- * Select CTL counter and CTL time code with Menu Switch No. 352 COUNTER MODE.
- Item numbers and set values are displayed numerically during menu switch setting.
- When no cassette is loaded or the OPERATE button is switched OFF, this shows the clock time (hours: minutes).

7 Sound level meter

- Displays HiFi sound recording level.
- Displays Hi-Fi or normal sound level during playback.
- Displays NORMAL when normal sound is selected with the AUDIO OUT SELECT button.
- Displays L or R when Hi-Fi sound is selected with the AUDIO OUT SELECT button.

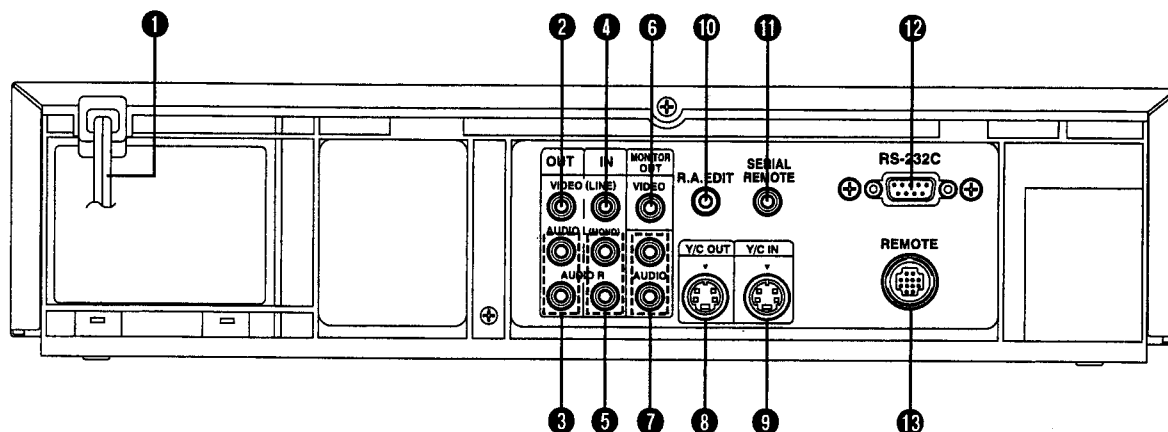
"L", "R" and "NORM" indications show the audio selected with the AUDIO OUT SELECT button in the Search and Slow-motion Play modes. However, the audio that is actually output depends on the setting of menu switches No. 204 "Hi-Fi OUT AT SEARCH" and No. 212 "NORM OUT AT SEARCH".

*MIX:Hi-Fi+NORM

Menu switches		Audio out select	Display	Audio output
No.212	No.204			
ON	MUTE	Hi-Fi	L R	Mute
		NORM	NORM	Normal
		MIX*	L NORM R	Normal
	NORM	Hi-Fi	L R	Normal
		NORM	NORM	Normal
		MIX*	L NORM R	Normal
OFF	MUTE	Hi-Fi	L R	Mute
		NORM	NORM	Mute
		MIX*	L NORM R	Mute
	NORM	Hi-Fi	L R	Normal
		NORM	NORM	Mute
		MIX*	L NORM R	Normal

CONTROLS AND FUNCTIONS

REAR PANEL



1 Power cable

Connect the power cable plug to an AC 220 - 240 V 50/60 Hz outlet.

2 VIDEO LINE OUT connector (RCA)

Outputs the input or playback composite video signal.

3 AUDIO OUT connector (RCA)

Outputs the audio signal selected with the front panel AUDIO OUT SELECT button or HiFi OUT SELECT button.

Outputs the signal input to the AUDIO IN connectors in the Stop or Record modes.

4 VIDEO LINE IN connector (RCA)

Accepts the composite video signal.

5 AUDIO IN connector (RCA)

Accepts the selected audio signal.

- The input audio signal is recorded on the HiFi sound track and normal sound track in Record mode (with Menu Switch No. 200 HiFi AUDIO REC set to ON). Note that the normal sound track is monaural.
- When a single audio input cable (monaural) is in use, the same audio signal received at the AUDIO L (MONO) connector is recorded on both the L and R channels of the HiFi sound track.

6 VIDEO MONITOR OUT connector (RCA)

Outputs the input or playback composite video signal. Time data, operation mode and menu screen data is output for on-screen display through this connector.

7 AUDIO MONITOR OUT connectors (RCA)

Outputs the audio signal selected with the front panel AUDIO OUT SELECT button or HiFi OUT SELECT button.

Outputs the signal input to the AUDIO IN connectors in the Stop or Record modes.

The same signal is output from both connectors.

However, these signals are not in stereo.

8 Y/C OUT connector (4 pin)

Outputs the separated Y/C signal.

9 Y/C IN connector (4 pin)

Accepts the separated Y/C signal.

10 R.A.EDIT (Random Assemble Editing) connector (3.5 mm dia. mini)

Connect to the remote pause connector of another VCR to execute random assemble editing.

* See page 26 "Random Assemble Editing" for details.

11 SERIAL REMOTE connector (RCA)

Connect the optional RM-G30U remote control unit to receive the serial remote control signal.

* Set the front panel RS-232C/LOCAL/REMOTE switch to REMOTE. Disconnect the 13 REMOTE connector.

12 RS-232C connector (D-SUB 9 pin)

Connect an RS-232C interface cable (cross type) to operate this VCR via a personal computer.

* Set the VCR's front panel RS-232C/LOCAL/REMOTE switch to RS-232C.

13 REMOTE connector (12 pin)

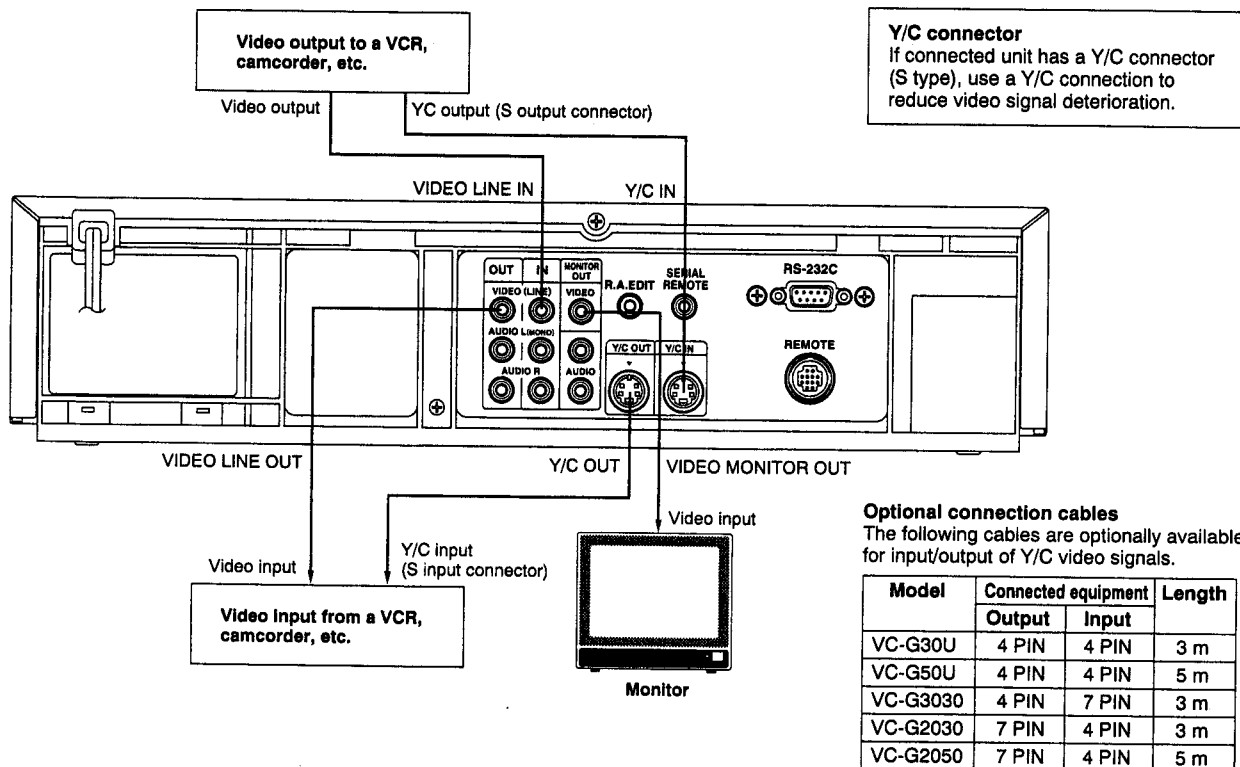
Connect the optional RM-G800U Editing Controller to receive remote control input.

* Set the front panel RS-232C/LOCAL/REMOTE switch to REMOTE.

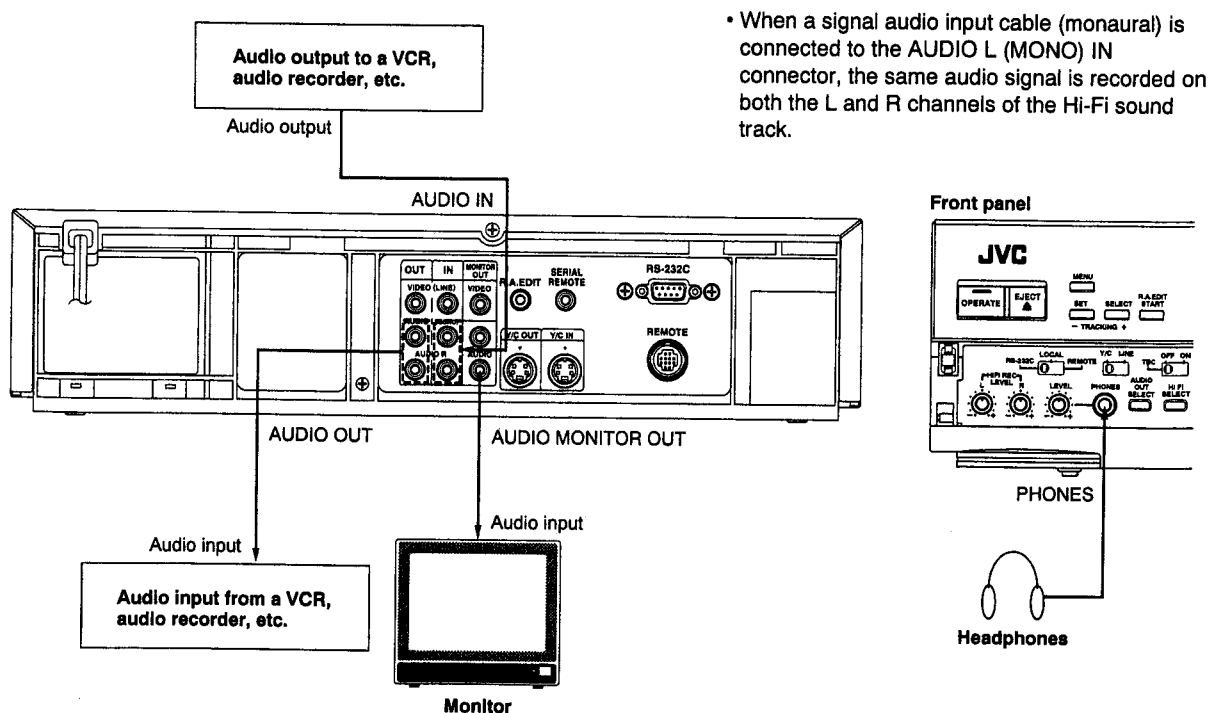
When both the SERIAL REMOTE connector and the REMOTE connector are in use, the REMOTE connector (12 pin) is effective with the front panel RS-232C/LOCAL/REMOTE switch set to REMOTE. When the SERIAL REMOTE connector (RCA) is used, disconnect the REMOTE connector (12 pin).

CONNECTIONS

VIDEO CONNECTIONS

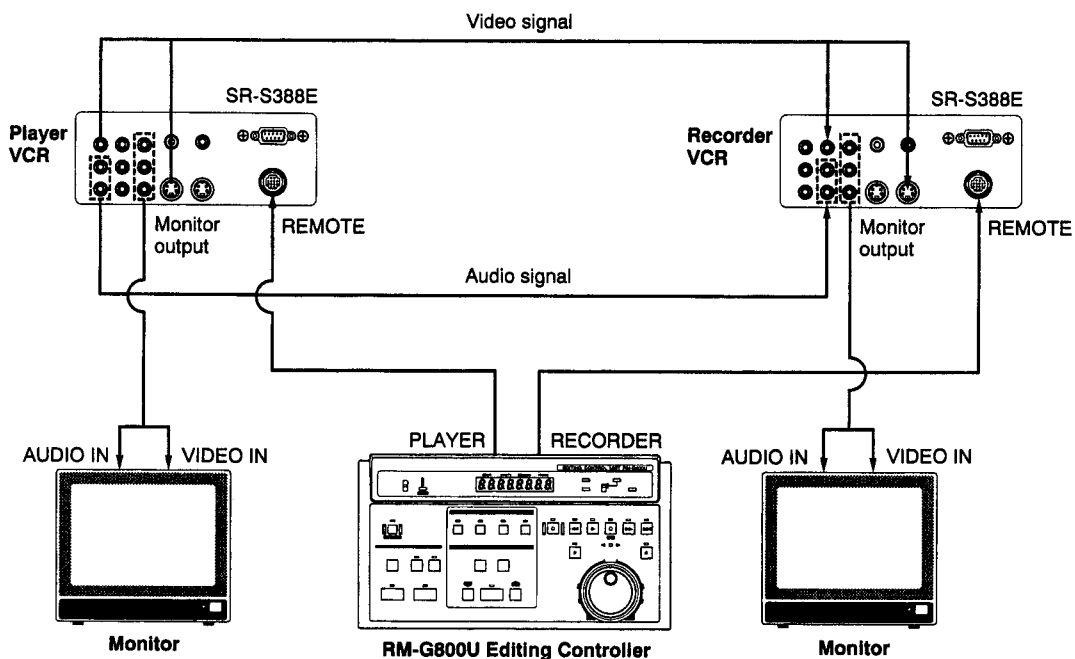


AUDIO CONNECTIONS



CONNECTIONS

EDITING SYSTEM CONNECTIONS



* Be sure to turn off the VCR before connecting the remote control cable.

Remote extension cable (option)

The RM-G800U's remote cable is about 85 cm long. To extend this cable, use the optional VC-G8030U (3 m) remote extension cable.

■ Connecting the optional RM-G800U Editing Controller allows assemble and insert editing.

- Set the VCR's front panel RS-232C/LOCAL/REMOTE switch to REMOTE.

Note:

When the RM-G800U is connected, the SERIAL REMOTE connector is disabled.

Note:

Use only RM-G800U models with an "X" next to the model name on the packing case and on the serial number plate on the bottom of the unit. If there is no "X" mark, the controller does not support CTL time code editing.

ON-SCREEN/MENU SWITCH

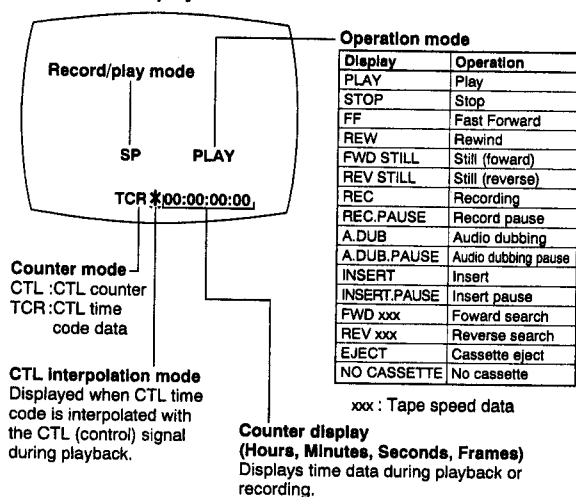
- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示。关于中文表示的内容请参考本书后面的中文说明。

ON-SCREEN DISPLAY

VCR status, menu settings, R.A. Edit settings, clock setting and counter data are displayed on-screen.

- The on-screen display data is output through the video monitor output connector on the rear panel. Display information is superimposed on the playback video signal in the Play mode and on the input video signal in the Stop or Record mode. If no signal is input, data is displayed on a blue-back screen.

1 Normal display



The following information is displayed on-screen.

1 Counter and VCR operation modes display

Normal display

- Displays when Menu Switch No. 500 ONSCREEN DISPLAY is set to ON. Set this to OFF to cancel the on-screen display.
- Simultaneous display of counter and VCR modes or counter display only can be selected with Menu Switch No. 504 INFORMATION ON SELECT.

2 Menu Switch Setting Display

Menu setting display.

- Press MENU to call up the main menu screen. Then select MEMORY SW with the SELECT and SET buttons. The menu switch setting display appears.
- Press MENU after menu switch setting to restore the normal display.

* See page 14 "Menu Switch Setting" for details.

3 Program Setting Display for Random Assemble Editing

Random assemble editing program setting display

- Press MENU button to call up the main menu display. Select R.A.EDIT with the SELECT and SET buttons. The random assemble editing select display appears.

* See page 26 "Random Assemble Editing" for details.

4 Clock Adjust Display

Set the clock (hours, minutes).

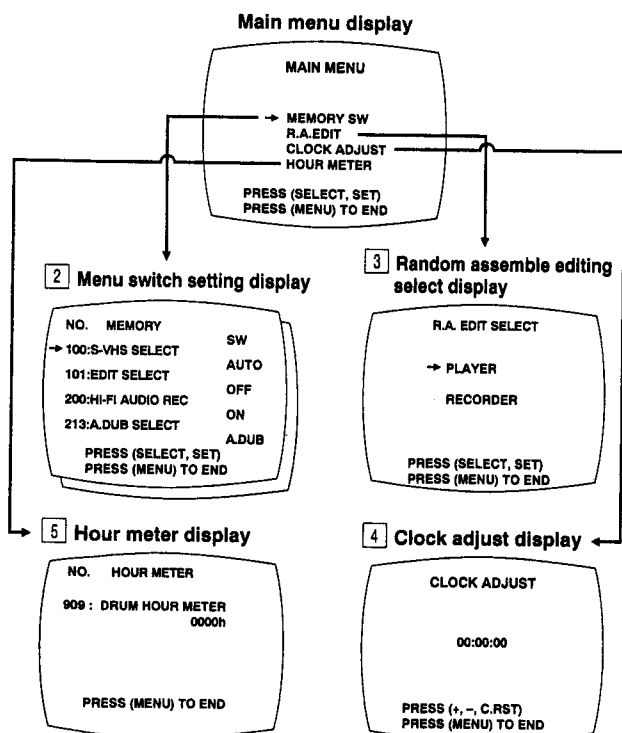
- Press the [MENU] button to display the main menu screen and select "CLOCK ADJUST" with the [SELECT] button and [SET] button to show the clock adjust display.
- After setting the clock, press the [MENU] button again to restore the normal display. The current set time is shown on the VCR's display (when no cassette is loaded or the OPERATE button is switched OFF). For details, refer to "Clock setting" on page 17.

5 Hour Meter Display

Displays total drum running time.

- Press MENU while pressing STOP to call up the sub-menu display. Select HOUR METER with the SELECT and SET buttons.
- When Menu Switch No. 338 "MENU SW 2" is set to OPEN, you can also call up this display by selecting "HOUR METER" on the main menu display.
- Press MENU again to restore the normal display.

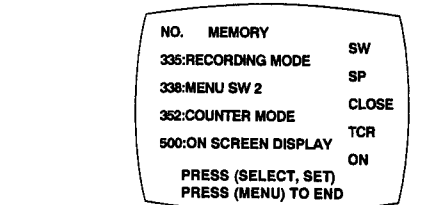
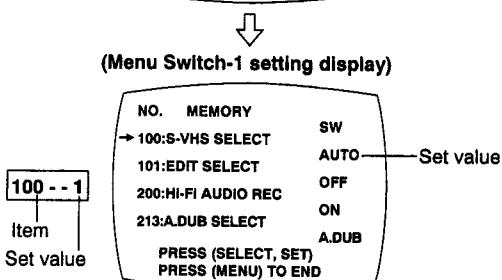
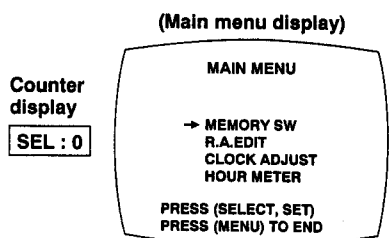
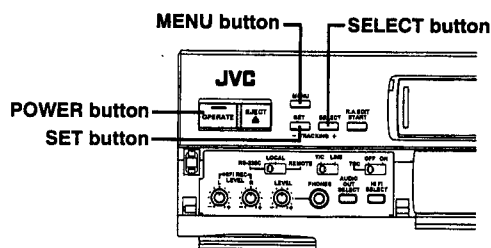
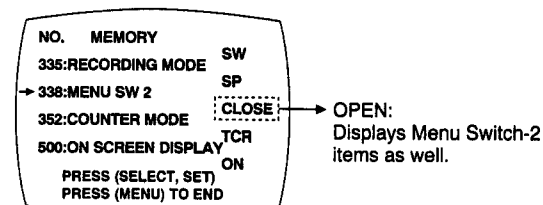
* See page 18 "Hour Meter Display" for details.



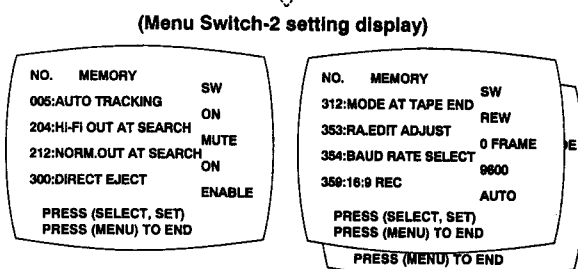
ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示. 关于中文表示的内容请参考本书后面的中文说明.

MENU SWITCH SETTING



With Menu Switch No. 338
MENU SW2 set to OPEN



In addition to its front panel control switches, the SR-S388E is provided with on-screen "menu switches" which enable you to change the settings of a wide range of other functions. To protect the menu settings data when the power is turned off, the data are stored in a built-in non-volatile memory. Use the Menu Set mode to cancel any preset functions that you don't require or to change certain parameters as desired.

Menu Switch Configuration

Menu switch setting items are separated into two levels to enhance operability.

Menu Switch-1

Operable when Menu Set mode is engaged. Includes frequently used switches such as record mode, Hi-Fi ON/OFF, and so on.

Menu Switch-2

The switches are activated by setting Menu Switch-1 No. 338 MENU SW2 to OPEN. Less frequently used switches are allocated to this level. Menu Switch No. 338 MENU SW2 is factory-set at CLOSE.

Menu Setting

- 1 Turn the power on.
- 2 Press MENU.
→ The setup menu appears on the monitor screen.
The counter display also switches to the Menu Set mode.
- 3 Press SELECT to place the cursor on MEMORY SW, then press SET.
→ The menu switch setting display appears.
- 4 Press SELECT to place the cursor on the item you want to set.
- 5 Press SET to change the setting as desired.
To continue setting, repeat steps 4 and 5.
- 6 To exit the menu, press MENU.
→ The display panel and the monitor screen switch back to the operation status display.

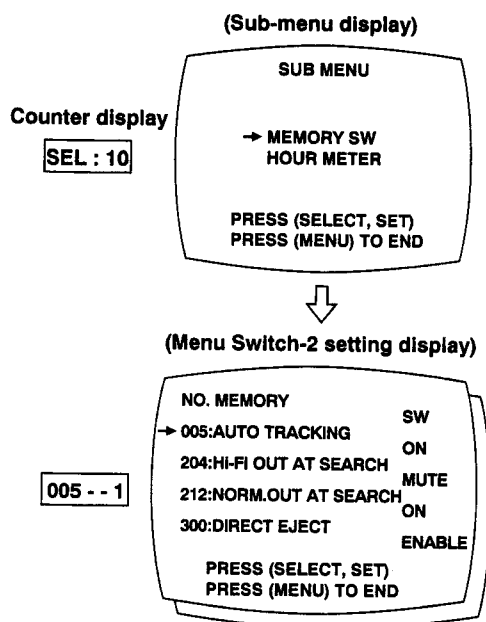
Note:

The menu switches related the recording mode cannot be set during recording.

ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示. 关于中文表示的内容请参考本书后面的中文说明.

MENU SWITCH SETTING



Setting Menu Switch-2 Items

When Menu Switch No. 338 MENU SW2 is set to OPEN, you can set items in Menu Switch-2 with the main menu. Use the same procedure as in Menu Switch-1 setting. You can also enable Menu Switch-2 settings even if Menu Switch No. 338 set to CLOSE. To do so, follow the steps below.

- 1 Turn the power ON.
- 2 Press MENU while pressing STOP.
→ The sub-menu display appears on-screen.
- 3 Press SELECT to move the cursor to MEMORY SW, then press SET.
→ The Menu Switch-2 setting display appears on screen.
- 4 Press SELECT to locate the item you want to set.
- 5 Press SET to change the setting as desired.
- 6 To end menu switch setting, press MENU.
→ The display panel and the monitor screen switch back to the operation status display.

LIST OF MENU SWITCHES

Names and descriptions of the menu switches are given below. See reference pages for details.

Menu Switch-1

No.	Name	Description	Reference page
100	S-VHS SELECT	S-VHS recording ON/OFF when using the S-VHS tape	15
101	EDIT SELECT	Selection of picture quality in Play mode or REC mode	15
200	HI-FI AUDIO REC.	Hi-Fi Audio recording ON/OFF	15
213	A.DUB SELECT	Audio dubbing mode selection	15
335	RECORDING MODE	Record mode selection (SP/LP)	15
338	MENU SW 2	Menu Switch-2 item selection	15
352	COUNTER MODE	Counter display mode selection (CTL/TCR)	15
500	ON SCREEN DISPLAY	On-screen display ON/OFF	15

Menu Switch-2

No.	Name	Description	Reference page
005	AUTO TRACKING	Auto tracking adjustment ON/OFF	16
204	HI-FI OUT AT SEARCH	Audio output selection in search mode (when setting Hi-Fi audio with AUDIO OUT SELECT button)	16
212	NORM. OUT AT SEARCH	Normal sound ON/OFF in Search mode (when setting normal audio with AUDIO OUT SELECT button)	16
300	DIRECT EJECT	Eject mode selection	16
312	MODE AT TAPE END	Tape end mode selection (Auto REW ON/OFF)	16
353	R.A.EDIT ADJUST	Random assemble editing output timing	16
354	BAUDRATE SELECT	RS-232C transmission speed selection	16
359	16 : 9 REC	The screen size detection signal recording ON/OFF.	16
504	INFORMATION SELECT	On-screen display data selection	16

ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示. 关于中文表示的内容请参考本书后面的中文说明.

MENU SWITCH-1 DETAILS

[] : Factory preset () : Display on the counter

Item		Set value	Description
No.	Name		
100	S-VHS SELECT	[AUTO] (1) VHS (0)	Enables or disables S-VHS Recording AUTO : Records in the S-VHS mode when an S-VHS tape is used, and records in the VHS mode when a VHS tape is used. VHS : Records in the VHS mode regardless of the tape used. Select this to record an S-VHS tape in VHS mode.
101	EDIT SELECT	[OFF] (0) DUB (1) ENHANCED (2)	Selects picture quality in Play mode or REC mode. OFF : Normal picture quality DUB : Select this when dubbing or editing to minimize picture quality deterioration. ENHANCED: Playback with sharper picture edges.
200	Hi-Fi AUDIO REC.	OFF (0) [ON] (1)	Enables or disables Hi-Fi Audio recording OFF : Hi-Fi recording is disabled. ON : HiFi recording is enabled.
213	A.DUB SELECT	[A.DUB] (0) Hi-Fi PB (1)	Selects audio dubbing mode A.DUB : Dubs audio on the normal audio track of a recorded tape. Hi-Fi PB : Records sound from the previously recorded Hi-Fi track onto the normal audio track. Select this for self audio dubbing. Set to A. DUB except when in Self Audio Dubbing mode.
335	RECORDING MODE	[SP] (0) LP (1)	Sets the recording speed SP : Records at VHS standard mode (SP). LP : Records at VHS long play mode (LP).
338	MENU SW 2	[CLOSE] (0) OPEN (1)	Enables or disables the Menu Switch-2 setting display. CLOSE : Menu Switch-2 setting display does not appear. OPEN : Menu Switch-2 setting display is called up following the Menu Switch-1 setting display.
352	COUNTER MODE	[TCR] (4) CTL (1)	Selects counter display information. TCR : Displays CTL time code data. CTL : Displays CTL counter.
500	ON SCREEN DISPLAY	OFF (0) [ON] (1)	Enables or disables the on-screen display. OFF : On-screen display disabled. ON : On-screen display enabled.

On-screen display is output through the video monitor output connector on the rear panel.

ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示。关于中文表示的内容请参考本书后面的中文说明。

MENU SWITCH-2 DETAILS

[] : Factory preset () : Display on the counter

Item		Set value	Description
No.	Name		
005	AUTO TRACKING	OFF (0) [ON] (1)	Enables or disables auto tracking. OFF : Auto tracking function disabled. Select this to manually adjust tracking during playback. ON : Automatic tracking adjustment is enabled.
204	HI-FI OUT AT SEARCH	[MUTE] (0) NORMAL (1)	Selects whether Hi-Fi sound is muted or normal sound is output during search. (Effective only when setting Hi-Fi audio with AUDIO OUT SELECT button.) MUTE : Mutes the Hi-Fi sound during search. NORMAL : Normal sound is output during search.
212	NORM OUT AT SEARCH	OFF (0) [ON] (1)	Selects whether or not normal audio is output during search. (Effective only when setting normal audio with AUDIO OUT SELECT button.) OFF : Mutes the normal audio sound. ON : Delivers the normal audio sound.
300	DIRECT EJECT	DISABLE (0) [ENABLE] (1)	Sets the direct eject mode. DISABLE: Eject possible only in Stop mode. ENABLE : Eject possible in any mode.
312	MODE AT TAPE END	STOP (0) [REW] (1)	Selects the mode engaged when the tape ends. STOP : Stops at tape end. REW : Rewinds to the beginning and stops.
353	R.A.EDIT ADJUST	-4 FRAMES (0) -3 FRAMES (1) -2 FRAMES (2) -1 FRAME (3) [0 FRAME] (4) 1 FRAME (5) 2 FRAMES (6) 3 FRAMES (7)	Sets the timing for random assemble editing. Edit points can be shifted by the set values.
354	BAUDRATE SELECT	1200 (0) 2400 (1) 4800 (2) [9600] (3)	Sets the transmission speed (bps) for RS-232C data.
359	16 : 9 REC	OFF (0) ON (1) [AUTO] (2)	Selects whether or not the normal screen size/wide screen (16:9) size detection signal is recorded. OFF : Not recorded. ON : Recorded. AUTO : Recorded when the wide screen detection signal is contained in video signals from the Y/C input connector.
504	INFORMATION SELECT	TIME (0) [TIME+MODE] (1)	Selects what information is to be displayed on-screen. TIME : Displays time data only. TIME+MODE: Displays time data and VCR mode data.

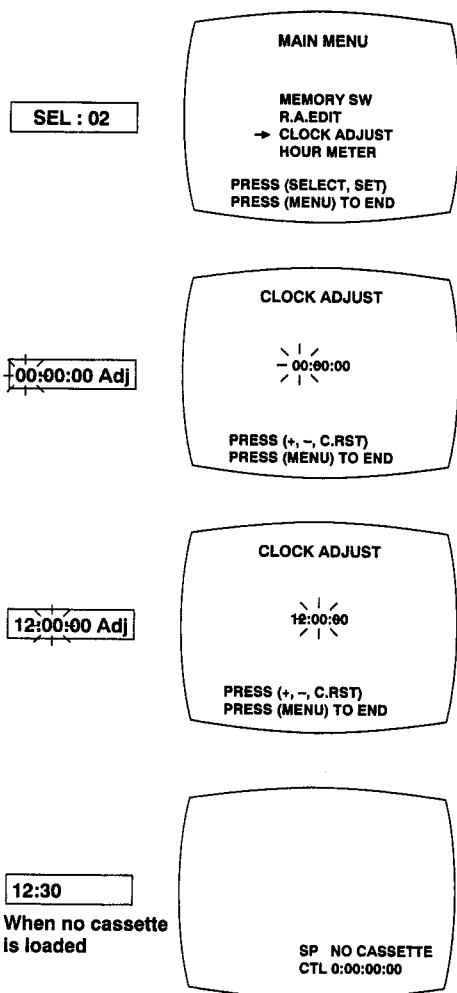
ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示, 关于中文表示的内容请参考本书后面的中文说明。

CLOCK SETTING

When the clock has been set, the clock time is shown on the counter display if the OPERATE button is set to OFF or no cassette is loaded.

- When the clock is not set, "--: --" blinks on the counter display.
- This unit uses the 24-hour system.
- Clock is accurate within ± 1 minute of the lunar cycle.



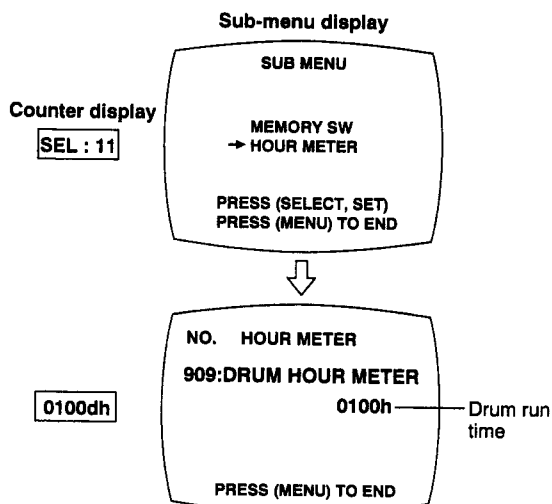
- 1 Press the OPERATE button to turn the power on.
→ The OPERATE button's LED and the counter display light up.
- 2 Press the MENU button.
→ The main menu display appears on-screen. The item number and set value are shown on the counter display.
- 3 Press the SELECT button to select "CLOCK ADJUST" and press the SET button to engage the CLOCK ADJUST mode.
→ The VCR enters the CLOCK ADJUST mode and the digits for "hour" blink.
- 4 Press the - (SET) or +(SELECT) button to adjust the "hour".
Pressing the - (SET) button decreases the numeric values and pressing the +(SELECT) button increases them.
- 5 Press the [C. RESET] button.
→ The digits for "minute" start blinking.
- 6 Press the - (SET) or +(SELECT) button to adjust the "minute".
Pressing the - (SET) button decreases the numeric values and pressing the +(SELECT) button increases them.
- 7 Press the MENU button to quit the CLOCK ADJUST mode.
→ The monitor screen returns to the normal display. The counter display shows the clock time if the OPERATE button is set to OFF or when no cassette is loaded.

ON-SCREEN/MENU SWITCH

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示, 关于中文表示的内容请参考本书后面的中文说明。

HOUR METER DISPLAY

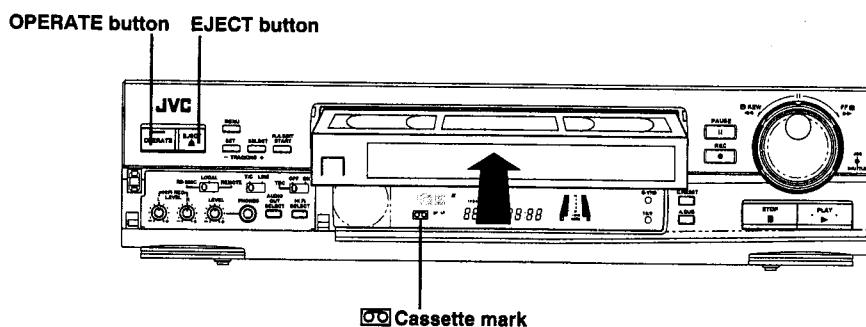
The hour meter displays the total running time of the video head drum.



- 1 Eject the cassette with power on.
- 2 Press MENU while pressing STOP.
 - Sub-menu display appears on screen.
- 3 Press SELECT to move the cursor to HOUR METER, then press SET.
 - The hour meter display screen appears on the monitor.
 - Up to 9999 hours can be displayed.
- 4 To exit the hour meter data display, press MENU.

* When menu switch No. 338 MENU SW2 is set to OPEN, you can also call up the HOUR METER on the main menu display.

CASSETTE TAPE LOADING AND UNLOADING



LOADING A CASSETTE

- 1 Press the OPERATE button to turn the power on.
 - The OPERATE indicator and the counter display are lit.

When a cassette is loaded with power off, the power is automatically turned on.

- 2 Insert a cassette with its label side facing you.
 - VCR power comes on automatically and the cassette is pulled in by the loading mechanism.
 - The VCR enters the Stop mode with the cassette mark on the display.
 - The S-VHS indicator lights when an S-VHS cassette is loaded.
 - The CTL counter is reset to 0:00:00:00.
 - The CTL time code data is reset to 00:00:00:00.

UNLOADING

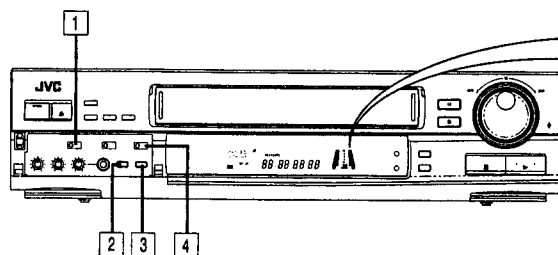
- 3 Press EJECT.
 - The cassette is ejected automatically.
 - The cassette mark on the display disappears.

Once this starts, do not try to withdraw the cassette. Wait until loading has completed, then press EJECT.

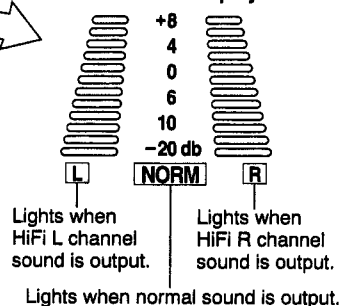
- The eject operation can be restricted with the setting of menu switch No. 300 "DIRECT EJECT".
- If it is set to "DISABLE", you can eject the cassette only in the Stop mode.

PLAYBACK

PREPARATION



Level meter display



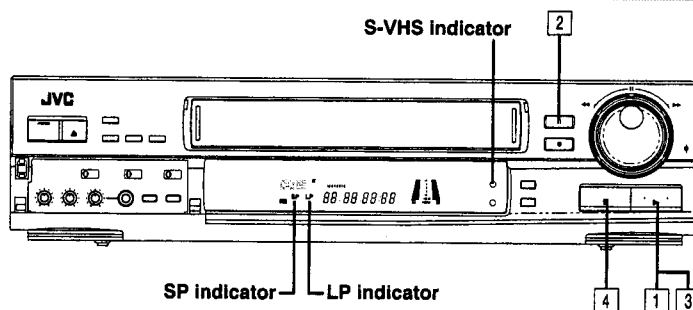
Front Panel Controls Setting

- 1 Set the RS-232C/LOCAL/REMOTE switch as desired. Set it to LOCAL to operate the VCR using the front panel controls.
- 2 Select the desired soundtrack. Selected mode is displayed on the display panel.
 - The soundtrack changes from Hi-Fi sound → Normal sound → Mixed sound (Hi-Fi + Normal) ... each time the button is pressed.
- 3 If you select Hi-Fi audio, press the Hi-Fi MONITOR SELECT button to choose the Hi-Fi channel.
 - The channel changes from Hi-Fi L+R → Hi-Fi L → Hi-Fi R ... each time the button is pressed.
- 4 Set the TBC ON/OFF. Normally set to ON.
 - The picture may be distorted if you play back a tape on which special signals (personal computer, some character generators, video games) have been recorded. In this case, set to OFF.

Menu Switch Setting

- Select playback picture quality
No. 101 EDIT SELECT see page 15
Factory-set at OFF
 - Select counter display mode
No. 352 COUNTER MODE see page 15
Factory-set at TCR
 - Select the mode at tape end (Menu Switch-2)
No. 312 MODE AT TAPE END see page 16
Factory-set at REW
- Set others as required.

BASIC PLAYBACK OPERATION



- 1 Press PLAY to start playback.
→ The Playback indicator lights.

- VHS/S-VHS selection is automatic. The S-VHS indicator lights when an S-VHS tape is played back.
- Tape speed selection is automatic. The SP or LP indicator lights.

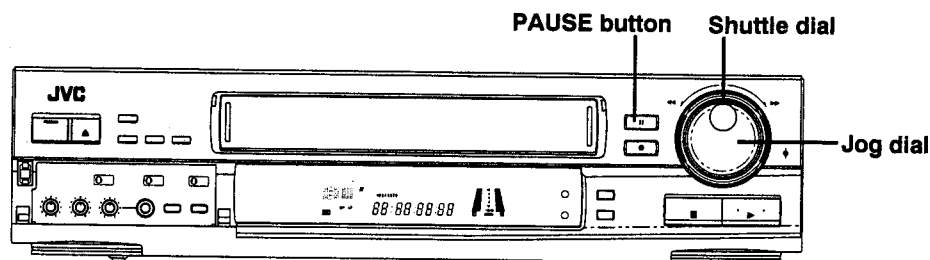
- Press the REC button during playback to monitor input signals. The signals will be displayed for as long as you hold the button.

- 2 To stop playback temporarily, press PAUSE.
→ A still picture is displayed and the Still indicator lights.
- 3 To re-start playback, press PLAY.
- 4 To end playback, press STOP.
→ The VCR enters the Stop mode.

To protect the tape, the Still mode is automatically canceled after about 5 minutes.

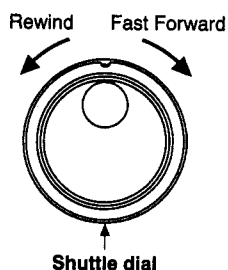
PLAYBACK

SPECIAL-EFFECTS PLAYBACK



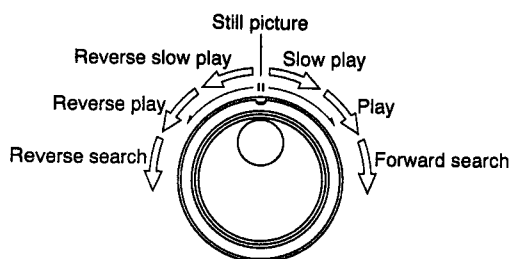
Fast Forward/Rewind

- When the tape is stopped, turning the shuttle dial as far as it will go engages the Fast-Forward or Rewind mode. Operation continues even if you release the dial.
 - Turn clockwise to fast-forward the tape.
 - Turn counterclockwise to rewind the tape.



Search with Shuttle Dial

- 1 Turn the SHUTTLE ring in the Play or Still mode.
 - To search in the forward or reverse direction, turn the SHUTTLE ring gradually clockwise or counterclockwise. The further you turn the dial, the faster the search speed. Search speed changes in five steps from 1/30X to 7X (common in SP and LP modes).



- 2 Releasing the ring produces a still picture.
- When the SHUTTLE ring is fully turned and released, forward or reverse search continues at maximum speed.
 - Press PLAY to resume normal playback or press PAUSE to obtain a still picture.

Frame-by-Frame Playback and Slow-Motion Playback

Frame-by-Frame Playback

- Press PAUSE while in the Still mode to advance the picture frame by frame.



Slow-Motion Playback

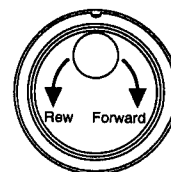
- Press PAUSE and hold for about 2 seconds to start slow-motion playback at 1/6 normal speed.
 - The direction of slow-motion playback (forward or reverse) is determined by the direction of playback when the Still mode was engaged.



Press for about 2 seconds

Frame-by-Frame Playback with Jog Dial

- 1 Turn the JOG dial clockwise for frame advance; counterclockwise for frame reverse in the Play or Still mode.
 - Turning the dial moves the picture one frame at a time in the corresponding direction. The tape speed corresponds to the speed the dial is rotated.



- 2 Releasing the dial produces a still picture.
 - Around 10 frames are played back per turn of the jog dial.
 - Turning the jog dial faster starts slow-motion playback at +/- 1/6 normal speed.

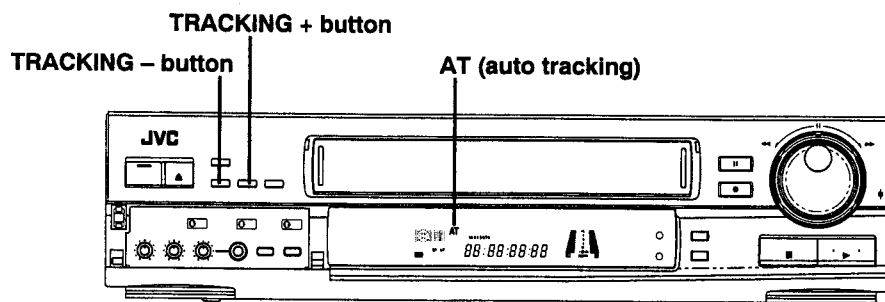
During search and slow-motion playback, even if the screen size detection signal recorded on the tape changes, output signals do not change.

HiFi sound is not output during search. If normal sound has been selected with the [AUDIO OUT SELECT] button, you can select whether or not to output normal sound in the Search mode with menu switch No. 212 "NORM OUT AT SEARCH".

When Hi-Fi sound is selected with the AUDIO OUT SELECT button, you can select whether or not to output normal sound during search or slow-motion playback with menu switch No. 204 "Hi-Fi OUT AT SEARCH".

PLAYBACK

TRACKING ADJUSTMENT/STILL PICTURE OSCILLATION ADJUSTMENT



Tracking Adjustment In Normal Play Mode

When Menu Switch No. 005 AUTO TRACKING is set to ON, tracking is automatically adjusted during playback. Normally this should be set to ON.

AT (Auto Tracking) is indicated on display during auto tracking mode.

- If auto tracking adjustment is inadequate, use manual tracking adjustment.

1 Press the TRACKING + and - buttons simultaneously during playback. (Otherwise, set the menu switch No.005 AUTO TRACKING to OFF.)

→ The AT indicator disappears and the Manual Tracking mode is engaged.

2 Press either TRACKING to minimize noise while monitoring the playback screen.

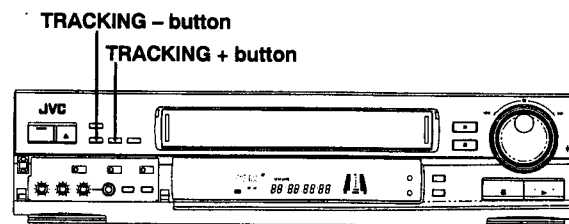
- To restore the Auto Tracking mode, press TRACKING + and - buttons simultaneously during playback.

(Otherwise, set the menu switch No.005 AUTO TRACKING to ON.)

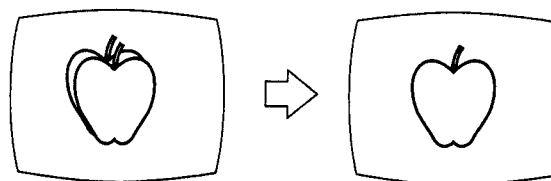
→ The AT indicator lights.

Still Picture Vertical Oscillation Adjustment

Vertical dancing in still pictures can be corrected with the TRACKING buttons.



- Press either TRACKING button to minimize vertical dancing.



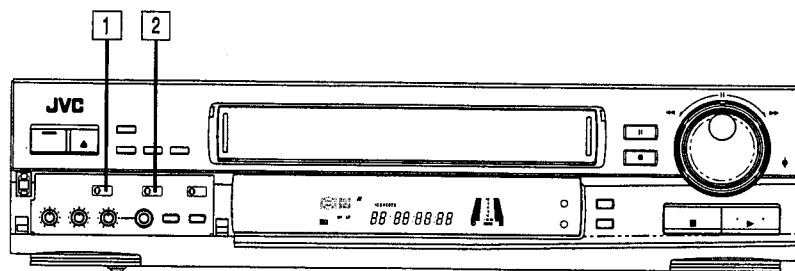
Tracking Adjustment in Slow-Motion and Search Modes

Auto tracking is disabled during slow-motion playback or search. Tracking must be adjusted manually.

- Press either TRACKING button to minimize noise.
 - Pressing the TRACKING + and - buttons simultaneously restores the initially set tracking adjustment value.

RECORDING

PREPARATION



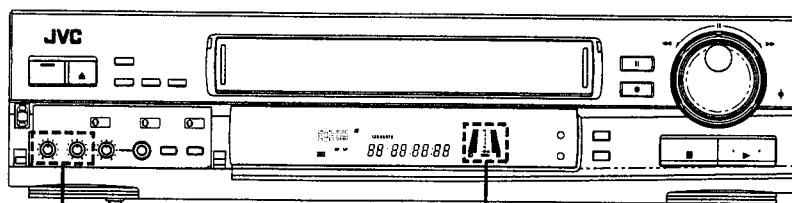
FRONT PANEL CONTROLS SETTING

- 1 Set the RS-232C/LOCAL/REMOTE switch as desired.
Set it to LOCAL to operate the VCR using the front panel controls.
- 2 Select the video input signal.
Select video input with the Y/C.LINE switch.
Y/C : Set to this position to record the separate YC signal received through the rear-panel YC IN connector.
LINE : Set to this position to record the composite video signal received through the rear-panel VIDEO LINE IN connector.

MENU SWITCH SETTING

- **Select record mode**
No. 100 S-VHS SELECT See page 15
Factory-set at AUTO
• Set to VHS to record an S-VHS cassette tape in VHS mode.
- **Select ON/OFF of Hi-Fi sound recording**
No. 200 Hi-Fi AUDIO REC See page 15
Factory-set at ON
- **Select recording speed**
No. 335 RECORDING MODE See page 15
Factory-set at SP
- **Select mode at tape end (Menu Switch-2)**
No. 312 MODE AT TAPE END See page 16
Factory-set at REW
- **Screen size detection signal recording ON/OFF**
No. 359 "16:9 REC" See page 16
Factory-set at AUTO.

ADJUSTMENT OF HI-FI SOUND RECORDING LEVEL



Hi-Fi REC LEVEL R and L adjust knobs

Hi-Fi sound recording level meter

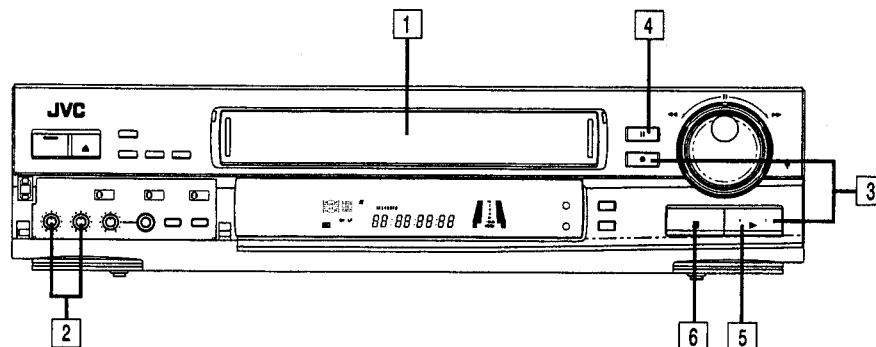
The Left and Right channel Hi-Fi sound recording levels can be adjusted independently.

* Normal sound recording level is not adjustable.

- 1 Engage the Stop or Record Pause mode.
- 2 Turn Hi-Fi REC LEVEL R and L adjust knobs to adjust the recording level.
• Adjust so that the level meter displays 0 dB at the peak signal level.

RECORDING

BASIC RECORDING OPERATION



- 1 Load a cassette with safety tab in place. (If the tab has been removed, cover the hole with adhesive tape.)
 - The power automatically turns on when the cassette is inserted.
- 2 Adjust Hi-Fi sound recording level (with Menu Switch No. 200 set to ON).
 - Adjust with the Hi-Fi REC LEVEL L/R controls. See page 22.
- 3 Press PLAY while pressing REC to start recording.
→ The REC mark lights.

- 4 To temporarily stop recording, press PAUSE.
→ The Record-Pause mark lights.
- 5 To re-start recording, press PLAY.
→ The REC mark lights.
- 6 Press STOP to stop recording.
→ The VCR enters the Stop mode.

The VCR automatically stops when Record-Pause continues for more than 5 minutes.

CTL Time Code Recording

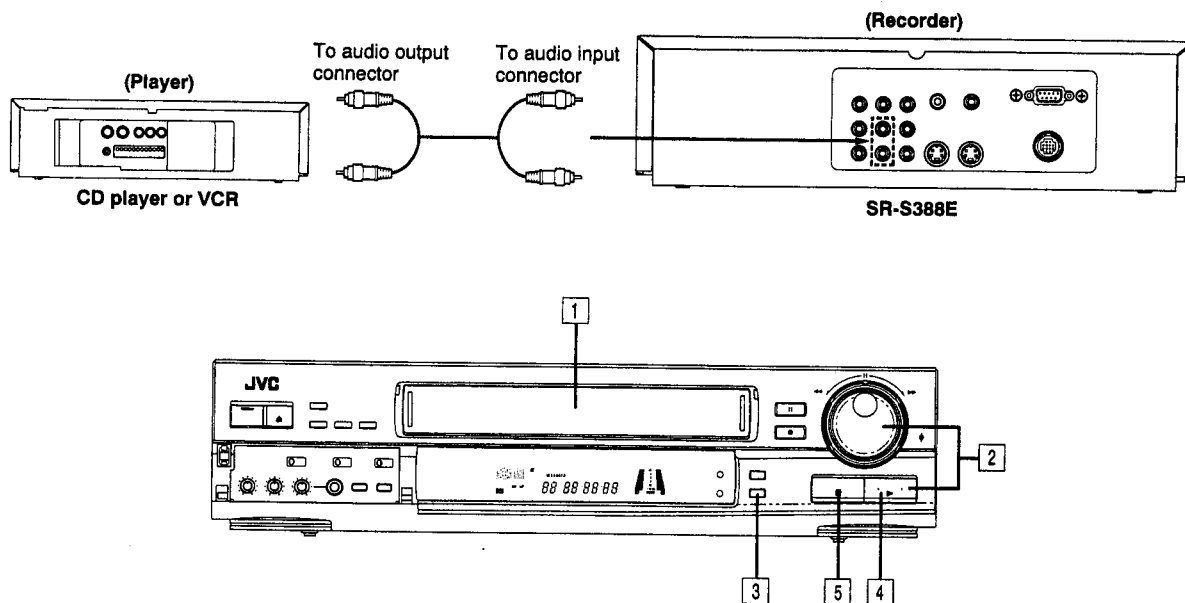
- CTL time code is compatible only with SP mode recording/playback.
- CTL time code is automatically recorded on the CTL track when recording starts from the beginning of the tape in the SP mode.
Time code recording starts at 00:00:00:00.
- * When recording is stopped or paused, CTL time code is not recorded thereafter.
See page 32 for details on CTL time code.

The built-in TBC is disabled in the Record mode including audio dubbing and editing modes.

RECORDING

AUDIO DUBBING

To simplify insertion of an additional or new soundtrack (such as narration or music) onto an existing recording, the SR-S388E is equipped with an audio dubbing function. Microphone or other external audio input can be recorded directly on the normal audio track (monaural). Hi-Fi sound cannot be dubbed.



Operation

- 1 Load a cassette with safety tab in place. (If the tab has been removed, cover the hole with adhesive tape.)
- 2 Search for the audio dubbing IN point.
 - Use the JOG/SHUTTLE controls to locate the IN point.
 - Engage the Still mode at the IN point.
- Set audio source to be dubbed in the player VCR.
- 3 Press A. DUB.
 - The VCR enters the Audio-Dub Pause mode. The picture on the monitor screen becomes noisy, however, this is not a malfunction.
- 4 Press PLAY to start audio dubbing.
 - The Audio Dubbing icon blinks on the display and Audio Dubbing starts.
- 5 Press STOP to stop audio dubbing.

Audio dubbing is not possible with the tape recorded in the LP mode or the tape without its safety tab.

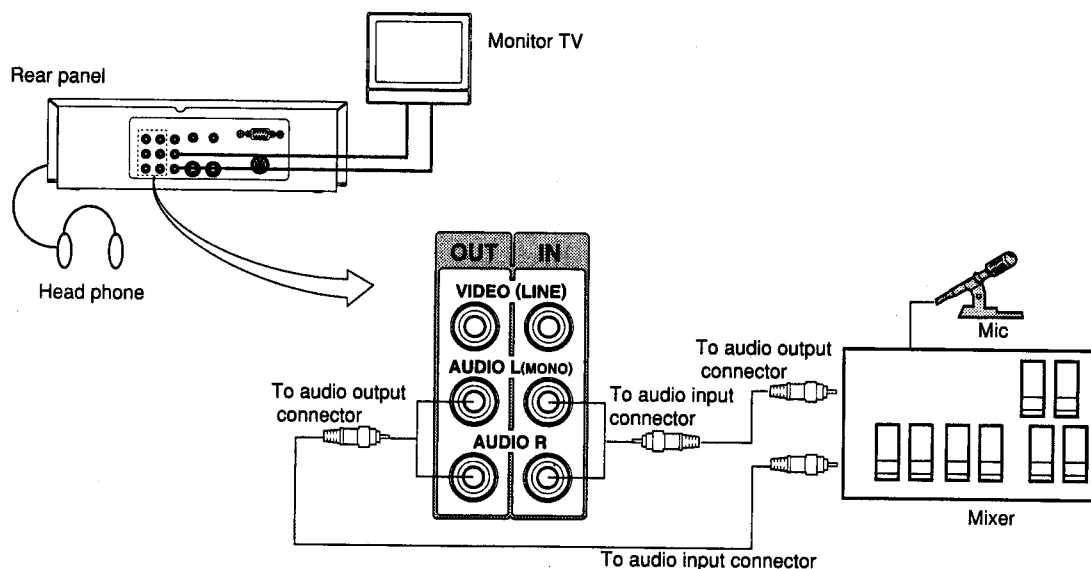
With Menu Switch No. 213 A.DUB SELECT set to Hi-Fi PB, the original Hi-Fi sound can be dubbed while being played back. (See page 25)

• The TBC is disabled.

RECORDING

SELF AUDIO DUBBING

During playback, the Hi-Fi soundtrack is recorded onto the normal audio track on the same tape. Audio editing options include dubbing the Hi-Fi audio, or adding narration, sound effects, etc. When this function is used for audio editing only, there is no degradation in video quality.



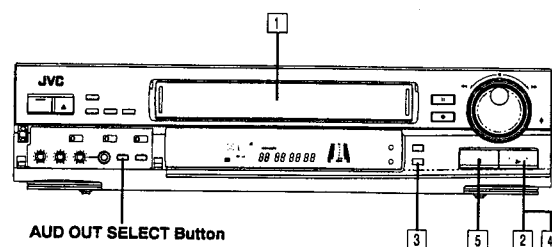
Preparation

- **Menu Switch Setting**
Set No. 213 A.DUB SELECT to Hi-Fi PB.
• Audio dubbing is performed while Hi-Fi audio sound is played back.
- **Select normal audio with the [AUDIO OUT SELECT] button.** If this is not selected, howling may occur.
- **Adjust the input audio level with the mixer.** If the level is too high, howling may occur.

Operation

- 1 Load a cassette with safety tab in place. (If the tab has been removed, cover the hole with adhesive tape.)
- 2 Search for the self audio dubbing IN point.
• Use the JOG/SHUTTLE controls to locate the IN point.
• Engage the Still mode at the IN point.

* Hi-Fi audio sound is not output in Search and Slow-Motion Playback modes.
* You cannot adjust the Hi-Fi sound levels because you are recording on the normal audio track.



Notes:

- Self audio dubbing is not possible on cassettes with no safety tab.
- Self audio dubbing is not possible with a tape recorded in the LP mode.

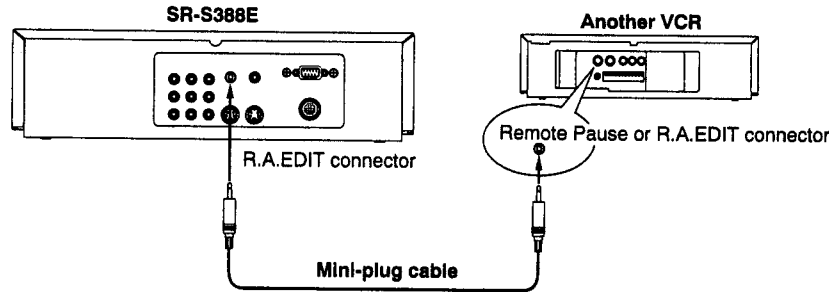
- 3 Press A. DUB.
→ [A. DUB] The VCR enters the Audio-Dub Pause mode.
- 4 Press PLAY to start self audio dubbing.
→ [PLAY] The Audio Dubbing icon blinks on the display.
• Hi-Fi sound is played back and recorded onto the normal audio track.
- 5 Press STOP to stop self audio dubbing.
- 6 When you've finished self audio dubbing, set menu switch No. 213 A. DUB SELECT back to A. DUB.

SPECIAL FUNCTIONS

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示。关于中文表示的内容请参考本书后面的中文说明。

RANDOM ASSEMBLE EDITING (R.A.EDIT)

The SR-S388E is provided with an R.A.EDIT connector on its rear panel that allows quick, easy assemble editing of up to 8 scenes at a time when connected to the Remote Pause or R.A.EDIT connector of another VCR. Ideal for rough cuts, Random Assemble Editing enables you to preset up to 8 scenes in any order and automatically edit them in the desired sequence.



Connections

- Connect the video and audio input/output connectors of the two VCRs.
- Connect the SR-S388E's R.A.EDIT connector to the other VCR's Remote Pause or R.A.EDIT connector.

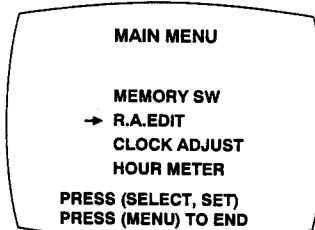
The setting procedure depends on whether the SR-S388E is used as a player or a recorder. Only one program can be set when it's used as a recorder.

Note:

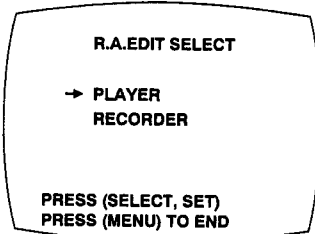
When Random Assemble Editing programs have been set on both the player and recorder, Random Assemble Editing cannot be executed.

When Using the SR-S388E As A Player

1 Main menu display

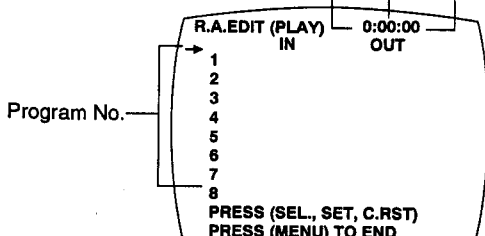


2 R.A.EDIT select display



3 R.A.EDIT setting display

Counter value (Hour Minute Second)



Enter the Random Assembly Edit Mode

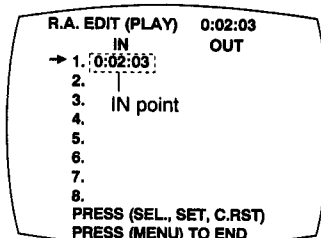
- 1 Press MENU to call up the main menu display
→ The main menu display appears on-screen.
- 2 Press SELECT to move the cursor to R.A.EDIT, then press SET.
→ The R.A.EDIT select display appears on-screen.
- 3 Select Player.
 - If the cursor is on PLAYER, press SET. If not, press SELECT to move the cursor to PLAYER, then press SET.
 - The SR-S388E is selected as the Player and the R.A. EDIT program setting display appears.
 - The cursor will be on Program No. 1 when the display is first called up.

SPECIAL FUNCTIONS

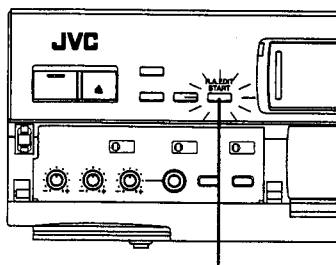
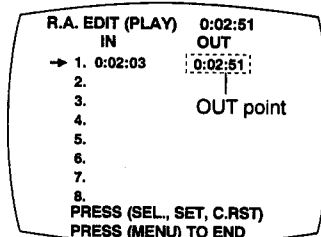
- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示. 关于中文表示的内容请参考本书后面的中文说明.

RANDOM ASSEMBLE EDITING (R.A.EDIT)

4 IN point setting

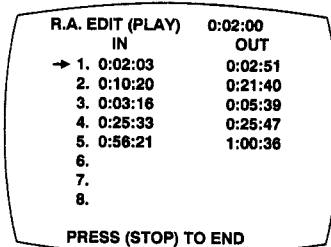


7 OUT point setting

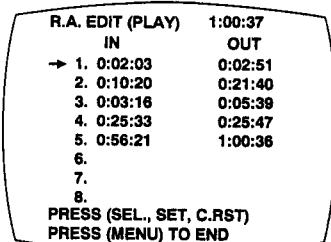


R.A.EDIT START button lights

10



11



Program Setting

- Search for the edit IN point.
 - Use the JOG/SHUTTLE controls to locate the IN point.
- Engage the Still mode at the IN point.
 - Press the [PAUSE/STILL] button.
- Press SET.
 - The IN point counter value data is entered in the IN point data for Program No. 1.
- Search for the edit OUT point.
 - Use the JOG/SHUTTLE controls to locate the OUT point.
- Press SET.
 - The OUT point counter value data is entered in the OUT point data for Program No. 1.
 - The cursor moves to the next Program.
- Repeat steps 4 through 8 to set additional programs.

- * Do not set the edit IN and OUT points at the beginning and end of the tape. The IN point for the first edit should be at least five seconds from the beginning of the tape.
- * Editing cannot be executed if the OUT point is placed before the IN point.
- * Set both the edit IN and OUT points. If either one is not set, editing does not take place.

Execute Random Assembly Editing

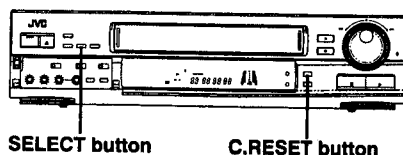
- Let the recorder stand-by in Record Pause mode.
- Press R.A.EDIT START to start random assemble editing.
 - The programmed scenes are automatically recorded in the program sequence.
 - The R.A.EDIT setting display is shown while the IN point is searched. The program indicated by the cursor is being searched.
 - The R.A.EDIT display disappears when editing starts.
- When all scenes have been recorded
 - The SR-S388E enters the Still mode and the R.A.EDIT setting display appears on-screen. The cursor is moved to the first Program No.
 - The recorder enters the Record Pause mode.
- To continue Random Assemble Editing, follow steps 4 through 10.
- To end Random Assemble Editing, press STOP.
 - The Random Assemble Editing mode is canceled.
- To restore the normal display, press MENU.
 - Then press the player's and recorder's STOP buttons.

Edit start timing can be fine-adjusted with Menu Switch No. 353 R.A.EDIT ADJUST. Adjusting the timing in the minus direction advances the recorder's edit timing. Adjusting it in the plus direction, delays it.

SPECIAL FUNCTIONS

- The "ON SCREEN" menu can be displayed either "English" or "chinese" language. Refer to "chinese menu" on the end of this instruction.
- 荧光屏显示内容即可以用英文表示也可以用中文表示. 关于中文表示的内容请参考本书后面的中文说明.

RANDOM ASSEMBLE EDITING (R.A.EDIT)



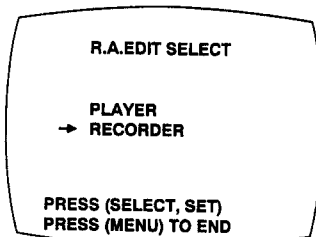
Note:

It is not possible to cancel the IN point only.

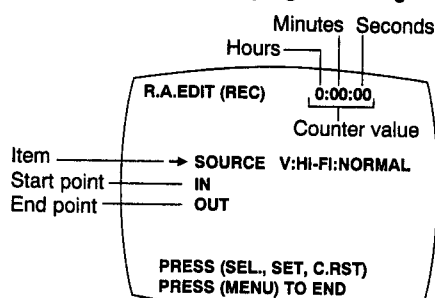
When Using the SR-S388E As A Recorder

One program can be insert-edited when using the SR-S388E as a recorder.

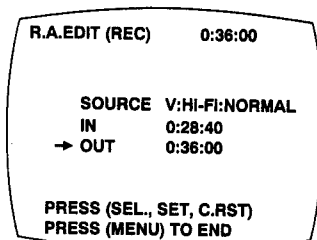
2 R.A.EDIT select display



3 Recorder program setting display



4 5 6 Program setting



Edit start timing can be fine-adjusted with Menu Switch 353 R.A.EDIT ADJUST.
Adjusting the timing in the minus direction advances the recorder's edit timing. Adjusting it in the plus direction, delays it.

Program Correction

Set data can be canceled during program setting.

- 1 Press SELECT to move the cursor to the Program No. you want to correct.
- 2 Press C.RESET to cancel the OUT point data.
 - To cancel IN point data as well, press C.RESET again.
 - All data is cleared when the power is turned off.
- 3 Re-enter the program data following the procedures described above.

Select Recorder in R.A.EDIT Mode

- 1 Press MENU button to call up the main menu display on-screen.
- 2 Press SELECT button to move the cursor to R.A.EDIT. → The R.A.EDIT select display appears on-screen.
- 3 Press SELECT to move the cursor to RECORDER, then press SET. → The recorder program setting display appears.

Program Setting

- 4 Select insert items.
Press SELECT to move the cursor to SOURCE, then press SET to select the insert item. Insert items can be selected from the following:
 - V : Hi-Fi : NORMAL Inserts Video + Hi-Fi sound + Normal sound
 - VIDEO Hi-Fi Inserts Video + Hi-Fi sound
 - NORMAL Inserts Normal sound

* When menu switch No. 200 Hi-Fi AUDIO REC is OFF, the Hi-Fi indication for SOURCE is not shown on the display.
- 5 Set the edit IN point
 - Press SELECT button to move the cursor to IN.
 - Use the Jog/Shuttle controls to locate the Insert IN point and engage the Still mode.
 - Press SET. The insert IN point is entered in the IN point data.
- 6 Repeat this procedure to insert the Insert OUT point.

Execute Insert Editing

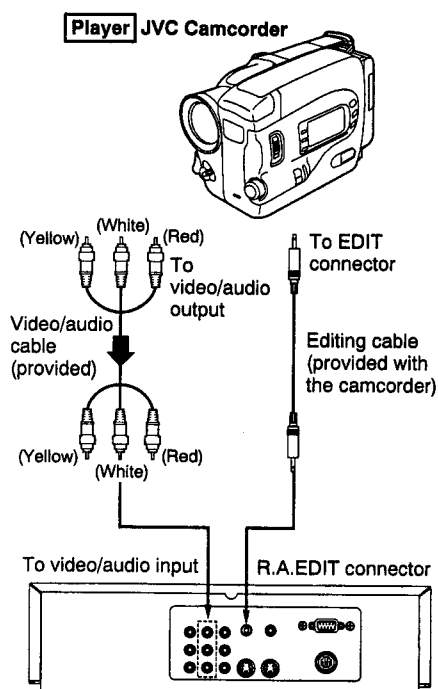
- Engage the Still mode for the player VCR.
- 7 Press R.A.EDIT START.
 - Insert editing starts. The TBC is disabled.
 - Recording stops at the insert OUT point.
 - The tape plays back for about 1 second, then enters the Still mode.

To correct the Insert settings

- Select the item you want to correct on the program setting display with the SELECT button and press C.RESET button. The selected item is canceled.
- All data is cleared when the power is turned off.
- Re-enter the data as described above.

SPECIAL FUNCTIONS

RECORDING FROM A JVC CAMCORDER



Note:

When using the SR-S388E as a recorder, Random assemble editing is not possible with SR-S388E's R.A.Edit program setting.

Recording start/stop on the SR-S388E can be controlled from the camcorder during dubbing.

Connections

- Connect the R.A.EDIT connector on the SR-S388E's rear panel to the camcorder's EDIT connector.
- Connect the camcorder's VIDEO/AUDIO OUT connector to the SR-S388E's VIDEO/AUDIO IN.

Operation

On the SR-S388E **1** Press REC and PAUSE together to engage the Record Pause mode.

On the Camcorder **2** Locate the start of the scene you want to dub and press the Edit Start button.
→ The SR-S388E automatically starts recording and the camcorder starts playback. When the selected scene has been recorded, the camcorder enters the Still mode and the SR-S388E enters the Record Pause mode.

When you've finished dubbing, stop both the SR-S388E and the camcorder.

SCENE FINDER FUNCTION (with RM-G800U)

When the optional RM-G800U editor is connected, the SR-S388E can quickly search the transitions between scenes on tapes shot with the JVC Professional GY-X2 or GY-X3 Camcorder (Scene Finder facility).

- Scene Finder operation is executed using the RM-G800U.
 - During forward search, press FF while pressing SHIFT to find the beginning of the next scene.
 - During reverse search, press REW while pressing SHIFT to find the beginning of the current scene.

See the "Additional Functions" sheet attached to the RM-G800U instruction manual.

Notes:

- RM-G800U models which support the Scene Finder facility are indicated by the letters SF or X right next to the model name on the packing case and on the serial number plate on the bottom of the unit.
- The Scene Finder facility is disabled on models without the SF or X mark.

AUTOMATIC EDITING WITH THE RM-G800U (OPTION)

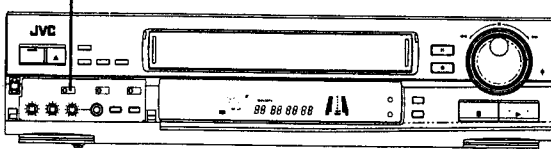
With the optional editing controller RM-G800U, you can configure a simple editing system for CTL time code-based automatic assemble and insert editing.

During editing, the recorder VCR always records in the SP mode. Editing in the LP mode is not possible.

Preparations

- 1 **Connect all necessary components.**
See page 11 "Connections"
- 2 **Make necessary settings on connected units.**

RS-232C/LOCAL/REMOTE Switch



- Set the Player's RS232C/LOCAL/REMOTE switch to REMOTE.
* See page 19 for other settings.

- Set the Recorder's RS232C/LOCAL/REMOTE to REMOTE.
* See page 22 for other settings.

■ Notes when using the RM-G800U

Some of the RM-G800U's functions do not apply with the SR-S388E.

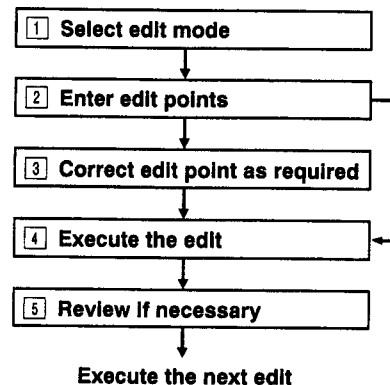
The following button, operation and setting are not applicable.

1. **PREVIEW button**
No Preview mode available. (When using the SR-S388E as a recorder.)
2. Since the SR-S388E's normal audio is monaural, audio tracks are not selectable between audio-1 and audio-2 in insert editing. Normal audio insert editing is engaged by pressing either the AUD-1 or AUD-2 button.
3. The following menu setting of the RM-G800U are not available.

Menu No.	Content	SR-S388E operation
00	PREROLL TIME	Preroll time will be fixed to 5 seconds.
03	BUMP ON/OFF	No bump operation.
04	BUMP RETRY ACCURACY	No bump operation.
05	EDITNG ACCURACY	Cannot be set. Editing accuracy is +/- 5 frames.
06	EDIT DELAY	Cannot be set.
11	FRAME GRAB FUNCTION	Not operative.

Operating flowchart

Editing procedures can be summarized as follows:



- 1 **Select edit mode.**
Select either assemble editing or insert editing.
- 2 **Enter edit points.**
Enter both edit-in and -out points.
- 3 **Correct edit points as required.**
Inserted edit points can be corrected.
- 4 **Execute the edit.**
After entering edit points, perform editing. This is referred to as "Executing an edit".
- 5 **Review if necessary.**
After executing an edit, you may want to rewind and check the quality of the transition between edit points. This is referred to as "Review".

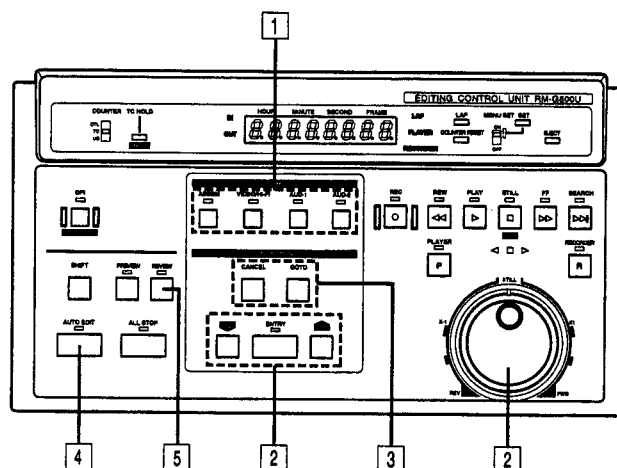
Proceed with editing by repeating the procedures above using the RM-G800U.

Note:

Use only RM-G800U models with an "X" next to the model name on the packing case and on the serial number plate on the bottom of the unit. If there is no "X" mark, the controller does not support CTL time code editing.

AUTOMATIC EDITING WITH THE RM-G800U (OPTION)

Basic Editing Procedure



1 Select edit mode.

ASSEM To perform assemble editing, press ASSEM.



VIDEO/Hi-Fi To perform insert editing, select the track you're going to replace by pressing either VIDEO/Hi-Fi, AUD-1 or AUD-2.



• VIDEO/Hi-Fi:

Prerecorded video and Hi-Fi audio track is replaced by new material.

• AUD-1 or AUD-2:

Prerecorded normal audio track (monaural) is replaced by new material.



2 Enter edit points.

Set edit-in point for each VCR (Player/Recorder) and set edit-out point for either Feeder or Recorder.

PLAYER



Press "PLAYER" to set data for Player and press "RECORDER" to set data for Recorder. Locate desired edit point using JOG/SHUTTLE controls.

RECORDER



ENTRY



To enter edit-in point, press ENTRY while pressing IN.



ENTRY



OUT

To enter edit-out point, press ENTRY while pressing OUT.

3 Correct edit points if required

The new data automatically cancels the previous data.



GOTO To review the picture at an edit point, press GOTO while pressing IN or OUT. The VCR runs the tape to the specified edit point and enters the Still mode.

CANCEL



To cancel an edit point without entering a new edit point, press CANCEL while pressing IN or OUT.

To finely adjust an edit point, turn the JOG dial while pressing IN or OUT.

4 Execute the edit.

AUTO EDIT



Press AUTO EDIT to start automatic editing.

5 Review if necessary.

REVIEW



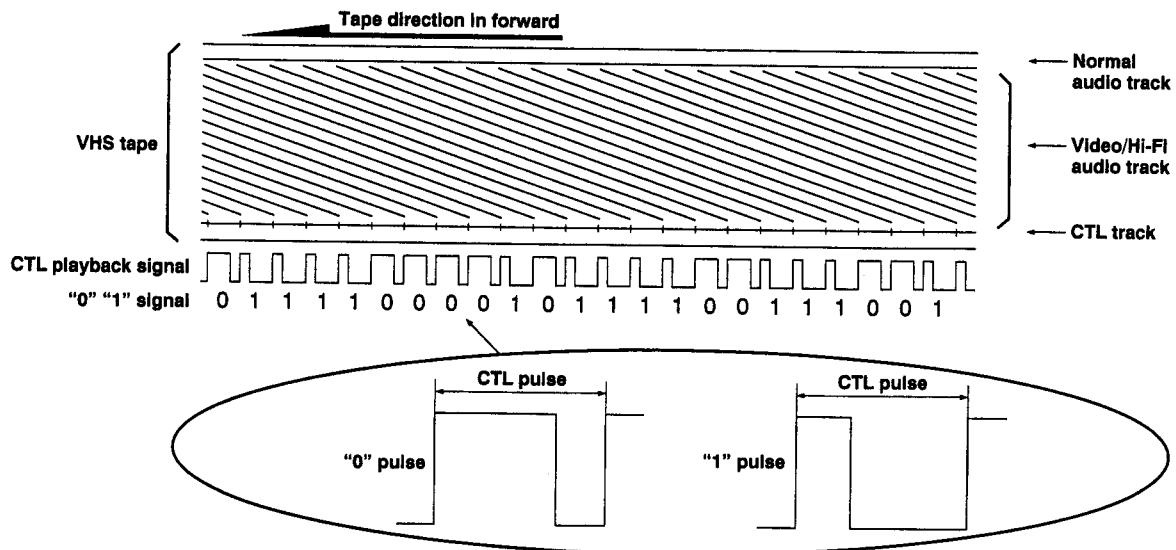
Before you enter new edit points for next edit, press REVIEW. Recorder automatically plays back the last executed.

■ To stop editing while editing is in progress: Press ALL STOP. Editing stops.

For details about editing using the RM-G800U, refer to the RM-G800U's instruction manual.

CTL TIME CODE

While professional time code systems such as VITC or LTC require special time code equipment, JVC's CTL Time Code takes advantage of the "control track" automatically recorded on the tape, making it the easiest and most flexible time code system available. The CTL time code data consists of 0 and 1 signals created by changing the duty ratio of the CTL signal on the tape. CTL time code signals are up to 2 seconds long and can contain both time data and user data. Time data represents the 6-digit temporal information of hours, minutes and seconds, while user data is in the form of hexadecimal 4-digit data. Frames between time code signals are interpolated with CTL pulses to enable frame-by-frame editing and search.



CTL Time Code Recording

- The interpolation mark (*) on-screen disappears during CTL time code recording.

Time data recorded from the beginning of the tape starts at 00:00:00:00.

Can be controlled via either the SR-S388E or the RM-G800U.

- 1 Set the RS-232C/LOCAL/REMOTE switch on the SR-S388E front panel to LOCAL to control time code recording with the SR-S388E. Set it to REMOTE to use the RM-G800U.
- 2 Rewind the tape to the beginning.
- 3 Press PLAY while pressing REC to start recording.
→ Time code data recording begins at 00:00:00:00, and user bits data is recorded as 0000.

Notes:

- Be sure tape is at the beginning before entering the Record mode. Time code recording does not take place if the tape is not fully rewind to the beginning.
- If tape is paused or stopped during recording, CTL time code data and user data will not be recorded when recording resumes.
- CTL time code is not recorded in the LP mode.

- If time code data has been preset, time code recording starts at the preset data. For more information on time code presetting, refer to page 33.

CTL TIME CODE

CTL TIME CODE ASSEMBLY EDITING/TC INSERT

CTL time code assemble/insert editing is controlled with the RM-G800U.

- Set the RS-232C/LOCAL/REMOTE switch on the SR-S388E front panel to REMOTE.
- When executing CTL time code assemble/insert editing from the start of the tape, run the tape for more than 5 seconds before executing editing.

Editing on a tape with CTL time code recorded (REGENE mode):

- 1 Set COUNTER switch to TC and play the tape. Make sure that the interpolation mark (*) on-screen is off.
- 2 Execute CTL time code assemble or insert editing.
 - To set the CTL time code insert mode, press AUD-2 while pressing SHIFT. Then press AUTO EDIT button, and insert operation starts. To end editing, press ALL STOP.
 - * "Editing Procedure" is described in Section 6-2 and 6-4 of the RM-G800U instruction manual.
 - Time code is recorded following the time code already recorded.
 - The same user data as already recorded is recorded.

Recording preset time code data:

- 1 Set the preset data.
 - * See page 17 of the RM-G800U Instruction Manual for the setting procedure.
- 2 Execute assemble editing or CTL time code insert.
 - Time code recording begins with preset data.
 - User bits data is recorded as preset data.

Note:

If either time code data or user bits data is not preset, non-preset data is recorded in the REGENE mode.

CTL TIME CODE PRESET

Performed with the RM-G800U.

Preset

- Time code and user bits can be preset independently by setting COUNTER switch to TC or UB.
- 1 Press TC HOLD button to enter the preset mode.
 - 2 Set the desired value with the Jog dial and SHIFT button.
 - 3 Press TC HOLD while pressing SHIFT to set the data.

Checking the preset data

- Press REC when the VCR is in the Stop or Cassette Eject mode.
 - The set data is displayed on the counter.

Canceling the preset mode

The preset mode can be canceled and the preset data can be deleted by doing either of the following.

- Change COUNTER switch to CTL.
- Execute recording, assemble or insert editing.

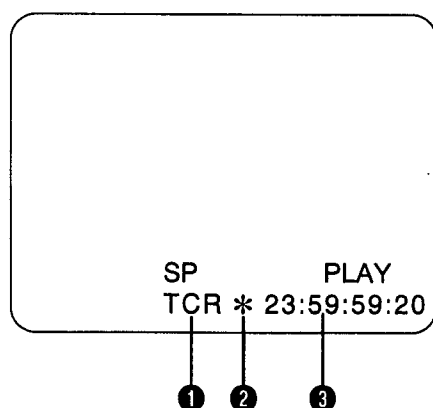
CTL TIME CODE

CTL TIME CODE PLAYBACK

Can be controlled with the SR-S388E or the RM-G800U.

- Set COUNTER switch to TC or UB and play back the tape.
(Set the SR-S388E's Menu Switch No. 352 COUNTER MODE to TCR.).
TC : Plays time code.
UB : Plays user bits data (for RM-G800U only).
- Available speed for time code playback: From 1X to 15X for both FWD search and REV search.
- Interpolation mode
Wherever there is a CTL time code read error during playback, the data is interpolated with the control signal. This mode is indicated by the interpolation mark (*) displayed on-screen, except when:
 - time data is read every 2 seconds, with the frame between them being interpolated with CTL;
 - only one CTL time signal is dropped (for 2 seconds) during continuous reading

ON-SCREEN DISPLAY



① CTL time code counter mode

TCR : CTL time code reader data
UBR : CTL users bit reader data
Displayed during recording and playback.
* UBR displayed only for RM-G800U
TCG : CTL time code generator data
UBG : CTL users bit generator data
Displayed for preset reviewing only.
* Only for RM-G800U

② Interpolation display

In playback : Displays (*) in interpolation mode.
In recording : No display during time code recording.

③ Counter display

Time data : 24-hour mode. 8 digits for hours, minutes, seconds and frames.
Users data : Hexadecimal 4-digit data. Only the lower 4 digits are valid on the 8-digit display.

CTL TIME CODE

NOTES AND PRECAUTIONS

1 Recording or playback for less than six seconds

Since one packet of CTL time code data lasts 2 seconds, it takes 6 seconds to read the code. Correct reading is therefore not possible when playing back a tape for less than 6 seconds or when recording for less than 6 seconds.

2 CTL time code cannot be written onto an LP-recorded tape

During LP recording, CTL time code is not recorded. CTL time code cannot be inserted on an LP-recorded tape.

3 Bit drop at the edit splicing point

Up to 8 bits of data may be dropped at the splicing point in assemble editing or time code insert editing. However, this does not affect the time data which remains continuous across the editing point.

4 Discontinuous data on the tape

Any discontinuous time data on the tape may lead to an error during editing or search. Before using a tape with discontinuous time data, insert continuous time data.

5 Editing from the start of the tape

When executing time code editing from the beginning of the tape, run the tape long enough to stabilize time code reading before starting editing.

6 User data setting Inhibited

The following character strings written on the user data may lead to an error during readout.

0FF8	1FF0	2FF8	3FE*	4FF8	5FF0	6FF8	7FC*	8FF8	9FF0	AFF8	BFE*	CFF8	DFF0	EFF8	*3FE
0FF9	1FF1	2FF9		4FF9	5FF1	6FF9	7FD*	8FF9	9FF1	AFF9		CFF9	DFF1	EFF9	*7FC
0FFA	1FF2	2FFA		4FFA	5FF2	6FFA		8FFA	9FF2	AFFA		CFFA	DFF2	EFFA	*7FD
0FFB	1FF3	2FFB		4FFB	5FF3	6FFB		8FFB	9FF3	AFFB		CFFB	DFF3	EFFB	*BFE
	1FF4				5FF4				9FF4				DFF4		
	1FF5				5FF5				9FF5				DFF5		
	1FF6				5FF6				9FF6				DFF6		
	1FF7				5FF7				9FF7				DFF7		

*Hexadecimal value specified.

7 CTL time code may not be correctly recorded when assemble editing or TC insert editing lasts for less than 6 seconds. In that case, execute TC insert editing again from the beginning to the end of the tape.

OTHERS

RS-232C INTERFACE

This section provides information for programmers on controlling the SR-S388E via the RS-232C interface.

Precautions in Programming

Communications with the VCR via the RS-232C serial interface are conducted by means of byte-by-byte data transmission and reception.

When sending commands to the VCR, wait for a period of 5 msec after receiving a return command from the VCR before sending the next command (data). If the interval is shorter than that, there will be no way to clear any communications error other than turning the VCR power off.

Clearing a Communication Error

ERROR (02h) is returned from the VCR when any error occurs during transmission or reception via the RS-232C serial interface. If this happens, clear the communications error by sending CLEAR (56h) or CLEAR ERROR (41h).

Commands are classified as follows:

Communications Commands	36
Operate Commands	36
Play and Special Play Commands	37
Recording Commands	38
Cue-up and Repeat Commands	38
Status Sense Commands	39
Memory Switch-related Commands	41
Edit Operation Commands	43
Time Code-related Commands	44

Preparation

Set the RS-232C/LOCAL/REMOTE select switch on the VCR to "RS-232C".

Communication commands

ACK (0Ah)

Acknowledges that a defined command has been received.

NAK (0Bh)

Returned when an undefined or unavailable command is received.

ERROR (02h)

Returned when a command is sent out of context and cannot be accepted.

- To clear the error condition, input CLEAR ERROR (41h) or CLEAR (56h).
- To cancel only the last input numeric data, input CLEAR ERROR (41h).
- To cancel all of the previously entered command, input CLEAR (56h).

CLEAR (56h)

Cancels the current mode.

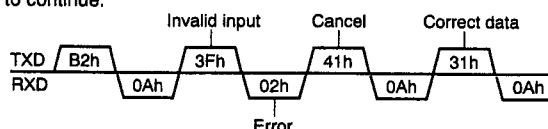
Clears communications error condition.

- When this command is sent, the VCR enters the stop mode. Turn the VCR's main power on again if the error condition cannot be cleared when this command is sent.

CLEAR ERROR (41h)

Deletes the last data input and clears the communications error condition.

- Example: Point specified with CUE UP WITH DATA (B2h)
Invalid data has been input so the data is canceled to allow input to continue.



- Send CLEAR if the error condition cannot be cleared when this command is sent several times in a row.

JVC TABLE 1 ON/OFF (F6h)/(F7h)

Selects which of the two tables on pages 44 and 45 is active.

- When one table is active, the other tables' cursor cannot be used.
- When shipped, the BASIC TABLE is enabled.

Operate Commands

FF/REW (ABh)/(ACh)

Engages the FF or rewind mode.

- When this command is sent during playback, the FWD or REV mode is engaged.

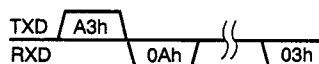
STOP (3Fh)

Engages the stop mode.

EJECT (A3h)

Ejects the cassette.

- Once the cassette has been ejected, CASSETTE OUT (03h) is returned.



CASSETTE OUT (03h)

Returned once the cassette has been ejected.

- An improperly processed return command may cause problems with the program.

OTHERS

FULL EE ON/OFF (C4h)/(C5h)

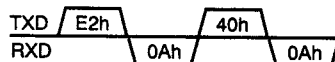
Switches the FULL EE mode on and off.

- All modes are set to FULL EE until FULL EE OFF (C5h) is sent.
- Use to monitor the video or audio being input to the VCR during playback.

COUNTER RESET (E2h)

Resets the VCR's CTL counter to "0".

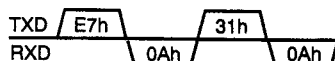
- After sending E2h, send 40h.



TIMER MODE SELECT (E7h)

Selects the reference signal for the tape counter.

- After sending this command, send a 1-byte numeric data packet.



- The numeric data corresponding to each timer mode are shown below.

Timer mode	Numeric data
CTL-TC	31h
CTL	32h
CTL-TC UB	34h

OPERATE ON/OFF (7Bh)/(7Ch)

Switches the VCR on and off.

- Effective with JVC TABLE 1 ON.

CURRENT CTL SENSE (D9h)

CURRENT LTC/LTC UB SENSE (D8h)/(DCh)

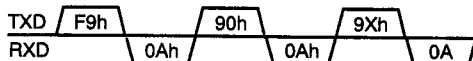
Checks the counter information for the current tape.

- Set the current timer to the same mode as the type of counter information desired and send the command.
- When the timer mode is set to CTL, "-" is shown if 38h is the first byte of the returned data.
- Time code user bits from A to F are returned with ASCII code capital letters (41h to 46h).
- See page 45 for instructions on how to represent time data.

TUNER STATUS (F9h)

Checks output sound switching and setting.

- Send the data after sending this command.



- Data and settings that can be sent after this command are shown below.

+90h + 94ht+

- 30h : Switches from Hi-Fi L → Hi-Fi R → Hi-Fi L/R → Hi-Fi L...
- 31h : Switches to Hi-Fi L.
- 32h : Switches to Hi-Fi R.
- 33h : Switches to Hi-Fi L/R (stereo).

+90h + 95ht+

- 30h : Switches from Hi-Fi → Normal → Hi-Fi + Normal (mix) → Hi-Fi...
- 31h : Switches to Hi-Fi sound.
- 32h : Switches to normal sound.
- 33h : Switches to Hi-Fi + Normal (mix).

+90h + 9A

3-byte data is returned. The following settings can be checked. Setting contents are determined by the characteristics of the bits included in the 2nd byte returned.

2nd byte

Bit No.	Contents when the bit is 1.
7 - 4	Not available.
3	Normal sound is selected.
2	Hi-Fi sound is selected.
1	Hi-Fi Rch is selected.
0	Hi-Fi Lch is selected.

Play and Special Play commands

PLAY (3Ah)

Engages the play mode.

STILL (4Fh)

Engages the still mode.

- Send the command in the play mode.

FWD/REV STILL (3Dh)/(4Dh)

Specifies the forward or reverse direction to engage the still picture reproduction mode.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

FORWARD SHUTTLE (B5h)

REVERSE SHUTTLE (B6h)

Engages the variable-speed playback mode at the speed specified.

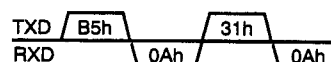
- The numeric data command must be sent after this command has been sent.
- For details on numeric data and speed data, refer to table below.

Speed	Numerical value commands
0 (STILL)	30h
1/30	31h
1/18	32h
1/6	33h or 34h
1	35h
2, -3*	36h
5	37h
7	38h
15	39h

- * Forward direction: +2x
- Reverse direction: -3x

Example

Plays back in the forward direction at 1/30 normal speed.



FORWARD FIELD STEP (ADh)

REVERSE FIELD STEP (AEh)

Advances one frame (approx.) in the forward or reverse direction.

- Send in the still mode.

X5 / X-5 (3Bh)/(4Bh)

X1/6 / X-1/6 (3Ch)/(4Ch)

X7 / X-7 (3Eh)/(4Eh)

X-1 (4Ah)

Engages the variable-speed playback mode. Speed is determined by the command transmitted.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

VISS FWD (B0h)

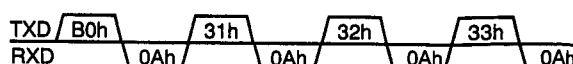
VISS REV (B1h)

Cue the n-th VISS point from the current tape position. Specify three-byte data. You do not need to input ENTER(40h) when you input full three-byte data. Also used to detect the point where the user bits are switched.

- Effective with JVC TABLE 1 ON.

Example

Cue the 123 VISS point in the forward direction.



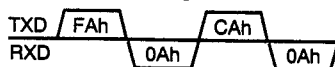
OTHERS

Recording Commands

REC/DUB REQUEST (FAh)

Prepares the VCR for recording. Must be sent prior to sending any recording-related commands.

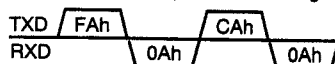
- Send when engaging the recording mode.



REC (CAh)

Engages the record mode.

- Send REC/DUB REQUEST (FAh), before sending this command.

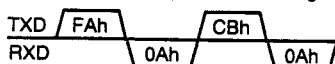


- If the cassette's safety tab has been removed, NAK (0Bh) is returned.

REC PAUSE (CBh)

Temporarily stops recording.

- Send REC/DUB REQUEST (FAh), before sending this command.

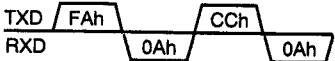


- If the cassette's safety tab has been removed, NAK (0Bh) is returned.

AUD DUB (CCh)

Engages the audio dubbing mode.

- Send this command after engaging the Audio Dubbing Pause mode.

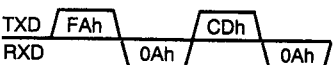


- If the cassette's safety tab has been removed or the tape is recorded in the LP mode, NAK (0Bh) is returned.

AUD DUB PAUSE (CDh)

Temporarily stops audio dubbing.

- In the Still mode, send REC/DUB REQUEST (FAh) before sending this command.



- If the cassette's safety tab has been removed or the tape is recorded in the LP mode, NAK (0Bh) is returned.

Cue-up and Repeat commands

MEMORY (5Ah)

Designates a specified tape position for cueing with MEMORY SEARCH (5Bh).

MEMORY SEARCH (5Bh)

Searches the point on the tape specified beforehand with MEMORY (5Ah) and engages the Still mode.

- Once the tape has been cued, COMPLETION (01h) is returned.
- If the specified position cannot be located, NOT TARGET (05h) is returned.
- If the timer mode is changed after specifying the position with MEMORY (5Ah), NAK (0Bh) is returned.

IN/OUT ENTRY (50h)/(51h)

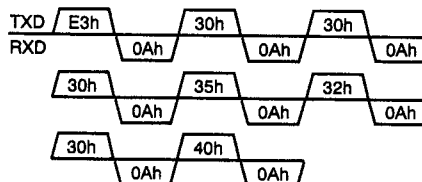
Designates specified tape positions as IN/OUT points.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- IN/OUT points must be specified in the same timer mode.

IN/OUT DATA PRESET (E3h)/(E4h)

Designates specified tape positions as IN/OUT points.

- When using CTL time code, specify tape positions within the range from 00:00:00:00 to 23:59:59:24. When using the CTL counter, specify tape positions in the range up to -9:59:59:24 in the minus direction.
- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- See page 45 for instructions on how to represent time data. Send numeric data after sending this command.
- Example: Specifying the position of 5 minutes 20 seconds as the edit-in point



- If the frame number is not specified (as in the example), numeric input must be followed by the ENTER (40h) command.
- When the time code is set to CTL, "-" is shown if 38h is the first byte of the returned data.
- It is not necessary to send ENTER (40h) if complete numeric data is input (8 digits).
- When invalid data (e.g. 90 minutes, 45 frames) is input, NAK (0Bh) is returned and the data is not registered.

IN/OUT DATA SENSE (DAh)/(DBh)

Checks data at the preset edit-in and edit-out points.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- An 8-byte data packet is returned as time data when the command is sent. If no IN or OUT point is entered, NAK (0Bh) is returned.
- See page 45 for instructions on how to represent time data.

IN/OUT FLAG RESET (52h)/(53h)

Cancels data set with IN/OUT DATA PRESET or IN/OUT ENTRY.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

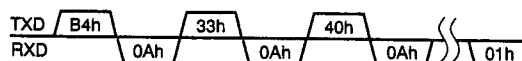
REPEAT (44h)/(B4h)

Repeatedly plays back the section of tape specified with IN/OUT DATA PRESET (E3h)/(E4h) or IN/OUT ENTRY (50h)/(51h).

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

Example:

To repeat playback three times



- The number of repetitions can be specified up to a maximum of 99 times.
- When playback has been completed the specified number of times, COMPLETION (01h) is returned.
- Sending ENTER (40h) instead of specifying the number of repetitions allows unlimited repetition of playback.
- If the IN point cannot be located, the beginning of the tape is automatically selected as the IN point. If the OUT point cannot be located, the end of the tape is automatically selected as the OUT point.
- To stop Repeat Play, send CLEAR (56h).

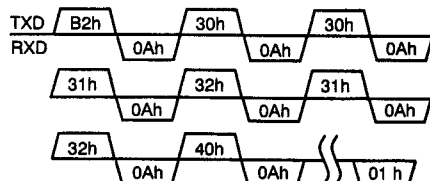
OTHERS

CUE UP WITH DATA (B2h/42h)

Cues the tape up at a specified tape position.

Example:

To cue up the tape at 12 minutes, 12 seconds



See page 45 for instructions on how to represent time data.

- If complete numeric data is input (8 digits), the ENTER command (40h) is not required.
- If the frame number is not specified (as in the example), ENTER (40h) must be sent after inputting the data. In this case, data begins from the most significant digit (hour).
- When the tape has been cued up, COMPLETION (01h) is returned. If the specified position cannot be located, NOT TARGET (05h) is returned.
- This command is effective for both BASIC TABLE and JVC TABLE 1. There is some difference in after-cueing operation of the depending on which table is valid.
With BASIC TABLE valid:
STILL mode entered at the time of cueing
With JVC TABLE 1 valid:
PLAY mode beginning with cueing
- When invalid data (e.g. 90 minutes, 45 frames) is input, NAK (0Bh) is returned.
- When the time code is set to CTL, "-" is shown if 38h is the first byte of the returned data.
- The possible range is up to -9H59M59S24F for the CTL minus indication. For the CTL time code indication, it is from 00H00M00S00F to 23H59M59S24F.

COMPLETION (01h)

Returned on completion of REPEAT, MEMORY SEARCH or CUE UP WITH DATA operations.

- An improperly processed return command may cause problems with the program.

NOT TARGET (05h)

Returned when a specified position cannot be detected in MEMORY SEARCH or CUE UP WITH DATA etc.

- An improperly processed return command may cause problems with the program.

ENTER (40h)

Indicates to the VCR that input of numeric data following commands such as REPEAT, CUE UP WITH DATA or IN/OUT DATA PRESET is complete.

DATA "0" - "9" (30h) - (39h)

Numeric data is sent.

- Send after commands such as REPEAT, CUE UP WITH DATA or IN/OUT DATA PRESET.

(3Ah) - (3Fh)

Hexadecimal A to F are sent.

- Send after LTC UB PRESET (E1h).

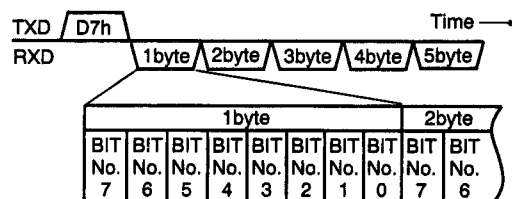
Status sense commands

A number of commands are available which allow you to check VCR settings and operations via RS-232C.

In this example, the STATUS SENSE command is used.

When STATUS SENSE (D7h) is sent, a 5-byte data packet is returned. VCR status can be determined by the bit assignment of each bit returned.

How the serial data are returned



Returned sequentially from the most significant (BIT No. 7) to the least significant bits.

To confirm that the VCR is set to the record mode, send STATUS SENSE (D7h).

Check the first bit of the fourth byte of the returned 5-byte data packet. If this bit is 1, the VCR is in the record mode.

The fourth byte

Bit No.	Status	Contents when the bit is 1
7	PLAY MODE	Playback*
6	FF MODE	Fast-forward
5	REW MODE	Rewind
4	STOP MODE	Stop
3	STANDBY MODE	Stop
2	EJECT	The cassette is being ejected.
1	REC MODE	Recording
0	A DUB MODE	In post-recording

* In the STILL, REC, ASSEMBLE, INSERT and A.DUB modes, this bit is also "1".

For details on the contents assigned to other bytes and bits, see below.

STATUS SENSE (D7h)

Requests status information from the VCR. A 5-byte data packet is returned. VCR status can be confirmed by checking the contents of the bits in each of the returned bytes. Bit assignments are shown below.

First byte

Bit No.	Status	Contents when the bit is 1
7	Always 1	
6	Always 0	
5	SHORT FF/REW	After detecting the beginning and end of the tape, the VCR enters the SHORT FF or SHORT REW mode.
4	REC INHIBIT	The loaded cassette does not have a protective tab.
3	CASSETTE OUT	No cassette is loaded.
2	SERVO LOCK	Always 1.
1	Not defined	
0	ERROR	An unacceptable command has been received. Any subsequent commands will have no effect. To clear this condition, send CLEAR ERROR (41h).

Second byte

Bit No.	Status	Contents when the bit is 1
7	EE MODE	EE output for video output.
6	A-I EE MODE	EE output for audio 1 output.
5	VIDEO MUTE	Video signals are muted.
4	AUDIO MUTE	Audio signals are muted.
3	WARNING	Warns of a problem with the VCR.
2	DEW	Not available.
1	TAPE BEGIN	The beginning of the tape is detected.
0	TAPE END	The end of tape is detected.

OTHERS

Third byte

Bit		Contents when the bit is 1
No.	Status	
7	TIMER PLAY ON	Not available.
6	TIMER REC ON	Not available.
5	COUNTER SEARCH	Not available.
4	REPEAT	The VCR's repeat mode is set to on.*
3	Not defined	
2	REPEAT MODE	In repeat
1	SEARCH MODE	In search (CUE UP/MEMORY SEARCH)
0	Not defined	

* For communications via the RS-232C, check to see if the bit is 0. If not, change the relevant setting to make it 0.

Fourth byte

Bit		Contents when the bit is 1
No.	Status	
7	PLAY MODE	Playback*
6	FF MODE	Fast forward
5	REW MODE	Rewind
4	STOP MODE	Stop
3	STANDBY MODE	Stop
2	EJECT	The cassette is being ejected.
1	REC MODE	Record
0	A DUB MODE	In post-recording mode

* In the STILL, REC, ASSEMBLE, INSERT and A.DUB modes, this bit is also "1".

Fifth byte

Bit		Contents when the bit is 1
No.	Status	
7	PAUSE	Pause
6	L-PAUSE MODE	Long Pause (tape protection)
5	SHUTTLE FWD	Forward Shuttle Search.
4	SHUTTLE REV	Reverse Shuttle Search.
3	SPEED CODE3	See the table below.
2	SPEED CODE2	See the table below.
1	SPEED CODE1	See the table below.
0	SPEED CODE0	See the table below.

Speed code and VCR's tape speed

VCR's operation speed	SPEED CODE				Hexadecimal data
	3	2	1	0	
STILL	0	0	0	0	0
x1/30	0	0	0	1	1
x1/18	0	0	1	0	2
x1/6	0	0	1	1	3
x1	0	1	0	1	5
x2, x-3*	0	1	1	0	6
x5	0	1	1	1	7
x7	1	0	0	0	8
x15	1	0	0	1	9
x15	1	0	1	0	A
x21 or more	1	0	1	1	B

* Forward direction: +2x
Reverse direction: -3x

JVC STATUS SENSE (DDh)

Contents

Requests status information from the VCR. A 4-byte data packet is returned. VCR status can be confirmed by checking the contents of the bits in each of the returned bytes. Bit assignments are shown below.

Transmission method

Refer to "Status Sense Commands" on page 39.

First byte

Bit		Contents when the bit is 1
No.	Status	
7	Always 1	
6	Always 0	
5	LP	Recording or playback is being executed in the LP mode.
4	S-VHS	The S-VHS mode is engaged and the S-VHS lamp is lit.
3	Hi-Fi	The Hi-Fi mode is engaged and the Hi-Fi lamp is being lit. (In the playback mode.)
		The menu switch No. 200 Hi-Fi AUDIO REC is set to ON. (In the REC or E-E mode.)
2		Not available.
1	JVC TABLE1	JVC TABLE1 is open.
0	LOCAL	LOCAL is selected on the remote switch.

Second byte

Bit		Contents when the bit is 1
No.	Status	
7	GENERATOR	Not available.
6	UB	User bits are selected for the current timer.
5	TC	TC is selected for the current timer.
4	CTL	CTL is selected for the current timer.
3	CTL interpolation	Missing parts of the time code are interpolated with CTL.
2	DF	Not available.
1	CTL-TC	CTL-TC is selected for the current timer.
0	VITC	Not available.

Third byte

Bit		Contents when the bit is 1
No.	Status	
7	REC RUN	Always 1
6	REGEN	The time code is set to REGEN. (With 0, PRESET)
5	EXT	Always 0
4	TC INSERT LAMP	The insert mode for the time code is selected.
3	AUD-1 INSERT LAMP	The insert mode for AUDIO-1 is selected.
2	AUD-2 INSERT LAMP	The insert mode for AUDIO-2 is selected.
1	VIDEO INSERT LAMP	The insert mode for video is selected.
0	ASSEMBLE LAMP	The assemble mode is selected.

OTHERS

Fourth byte

Bit		Contents when the bit is 1
No.	Status	
7	TBC BOARD	Always 1.
6	TC BOARD	Always 1.
5	Not defined	
4	Not defined	
3	Not defined	
2	2nd FIELD FREEZE	Not available.
1	1st FIELD FREEZE	Not available.
0	DIGITAL MEMORY	Not available.

The bit combination of the 2nd byte shows the timer mode.

Timer mode	Bit No.							
	7	6	5	4	3	2	1	0
CTL	0	0	0	1	—	—	0	0
LTC	0	0	1	0	—	—	1	0
LTC UB	0	1	0	0	—	—	1	0

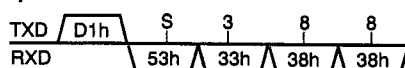
VCR INQ (FBh)

Checks whether the connected unit is a VCR or not.
 • If a VCR is connected, ACK (0Ah) is returned.

DEVICE TYPE REQUEST (D1h)

Checks the model name of the connected VCR.
 • Effective with JVC TABLE 1 ON.
 • Returns the last four digits of the model name in ASCII code.

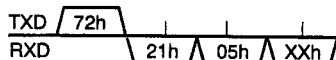
Example: SR-S388E



See the ASCII code table on page 45 for ASCII codes.

ROM VER. REQUEST (72h)

Checks the ROM version controlling the RS-232C.
 • Effective with JVC TABLE 1 ON.
 • Returns a 3-byte data packet.



Memory switch setting commands

Commands are also available which allow you to change the VCR's memory switches (menu switches) via RS-232C. In this example, the classification of memory switch information and the procedure for checking and changing servo-related memory switch settings are described.

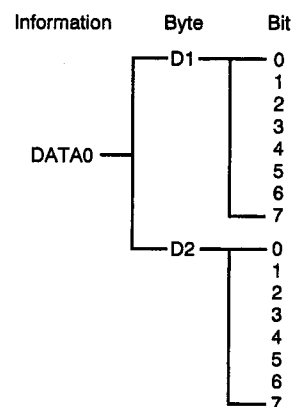
Memory switch information classification

Memory switch information is classified as follows.

Memory switch information	Data0
Servo information	01h
Video information	02h
Audio information 1	04h
Audio information 2	05h
System information 2	08h
System information 3	10h
On-screen information	82h
System information 7	89h

Specific memory switch information can be designated when sending DATA0 after MEMORY SW SENSE or MEMORY SW PRESET. This information (DATA0) consists of a 2-byte data (D1, D2) packet with each bit corresponding to a specific memory switch item.

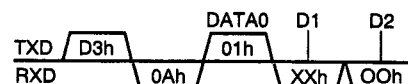
Refer to page 42 for memory switch assignments of individual bits.



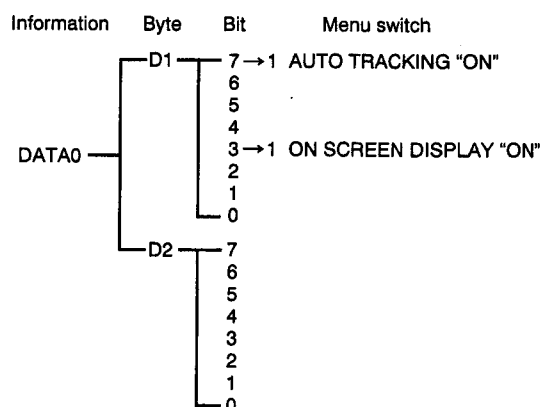
Checking the memory switch settings

Servo information

When 01h (DATA0) designating the servo information is sent after the MEMORY SW SENSE (D3h), a 2-byte data packet (D1, D2) containing the corresponding servo information is returned.



Each bit in the returned data packet corresponds to a specific memory switch setting.



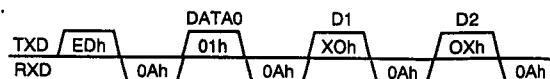
In this example, referring to the memory switch assignment table on pages 42 and 43 shows that the AUTO TRACKING and ON SCREEN DISPLAY are all ON.

Changing the memory switch settings

To set AUTO TRACKING to OFF

After sending the MEMORY SW PRESET (EDh), send 01 (DATA0) designating the servo information and 2-byte data packet (D1, D2) corresponding to the memory switch setting.

To set AUTO TRACKING to OFF, send data with bit No. 7 of D1 at 0.



• When sending data, be sure to maintain bit status checked with MEMORY SW SENSE (D3h) to ensure that other memory switch settings are not changed.

OTHERS

MEMORY SW SENSE (D3h)

Checks the VCR's memory switch (menu switch) settings.

- Effective with JVC TABLE 1 ON.
- Refer to "Checking the memory switch settings" on page 41.

For details on the relationship memory switch information and the VCR's menu switches (memory switches), see below.

MEMORY SW PRESET (EDh)

Changes the setting of the VCR's memory switches (menu switches).

- Effective with JVC TABLE 1 ON.
- Refer to "Changing memory switch settings" on page 41.

For details on the relationship memory switch information and the VCR's menu switches (memory switches), see below.

Menu switch No.	Menu name	Setting	2nd byte (DATA0)	3rd byte (D1)								4th byte (D2)							
				7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
005	AUTO TRACKING	OFF	01	0															
		ON		1															
100	S-VHS SELECT	VHS	02								0								
		AUTO									1								
101	EDIT SELECT	OFF	02						0							0			
		DUB							1							0			
		ENHANCED							0							1			
200	Hi-Fi AUDIO REC	OFF	04								0								
		ON									1								
204	Hi-Fi OUT AT SEARCH	MUTE	04		0														
		NORMAL			1														
212	NORM. OUT AT SEARCH	OFF	05				0												
		ON					1												
213	A. DUB SELECT	A. DUB	04										0						
		Hi-Fi PB											1						
312	MODE AT TAPE END	STOP	08				0												
		REW					1												

OTHERS

Menu switch No.	Menu name	Setting	2nd byte (DATA0)	3rd byte (D1)								4th byte (D2)							
				7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
335	RECORDING MODE	SP	08	0															
		LP		1															
338	MENU SW 2	CLOSE	08													0			
		OPEN														1			
352	COUNTER MODE	CTL	89						0	0	1								
		TCR							1	0	0								
353	R. A. EDIT ADJUST	-4 F	89			0	0	0											
		-3 F				0	0	1											
		-2 F				0	1	0											
		-1 F				0	1	1											
		0 F				1	0	0											
		1 F				1	0	1											
		2 F				1	1	0											
		3 F				1	1	1											
354	BAUD RATE SELECT	1200	89	0	0														
		2400		0	1														
		4800		1	0														
		9600		1	1														
359	16 : 9 REC	AUTO	90						0	0									
		OFF							0	1									
		ON							1	0									
500	ON SCREEN DISPLAY	OFF	01					0											
		ON						1											
504	INFORMATION SELECT	TIME	82														0		
		TIME+MODE															1		

Edit operation commands

EDIT PRESET (E5h)

Selects the edit mode (ASSEM, VIDEO, AUD-1, AUD-2, TC).

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- Two-byte numeric data must follow this command.

Bit assignment for each byte is shown below.

First byte

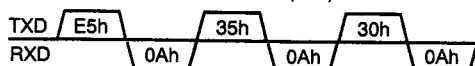
Bit No.	3	2	1	0
Mode	--	INSERT	ASSEM	VIDEO

Second byte

Bit No.	3	2	1	0
Mode	--	TC	AUD-2	AUD-1

For video insert

Set Bit Nos. 2 and 0 to 1 for the first byte to specify INSERT and VIDEO. Do this by sending the corresponding numeric values (35h and 30h) after sending EDIT PRESET (E5h).



SELECT EE ON/OFF (C8h)/(C9h)

Switches EE checking of the line selected with EDIT PRESET (E5h) on and off.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

PREROLL(A2h)

In preroll, the tape is rewound 5 seconds from the edit IN point. If no IN point has been set, the current tape position is considered the IN point. Once the tape has been prerolled, the STILL mode is engaged.

AUTO EDIT (C0h)

Executes editing between the edit-in and edit-out points.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).

EDIT ON/OFF (CEh)/(CFh)

Starts or stops run editing in the edit mode selected with EDIT PRESET (E5h).

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- If no edit IN point is set, the current tape position becomes the default IN point.
- Run editing is not possible.
- Tapes recorded in the LP mode cannot be edited.
- Editing is executed between the preset IN and OUT points.

OTHERS

Time code-related commands

TC SW PRESET

Specifies the time code mode.

- The Preset mode and the Regene mode can be switched.
- If the second bit of the 1-byte data packet sent after this command is "1", the Regene mode is engaged. If it is "0", the Preset mode is engaged.
- The other bits are disabled.

LTC/LTC UB PRESET (E0h)/(E1h)

Sets LTC or LTC UB data.

- Effective with BASIC TABLE ON (JVC TABLE 1 OFF).
- Numeric data must follow this command. Refer to "presetting the time code" on page 33.

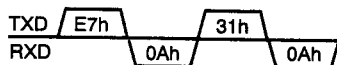
Using CTL time code

For details on CTL time code, refer to "CTL Time Code" on page 32.

Basic CTL time code operations are summarized here.

Current timer selection

Select LTC with TIMER MODE SELECT (E7h).



Data input

Select LTC time code with LTC PRESET (E0h).

When presetting the user bits, use LTCUB PRESET (E1h). The first four digits of the 8-digit preset data are not valid when presetting user bits.

For instance, when 12345678 is input, 00005678 is preset.

Checking CTL time code

Put the VCR into the STOP mode.

Send FULL EE ON (C4h).

When CTL time code is selected for the current timer, the preset CTL data is displayed on the counter display and on-screen. Select LTC time code with CURRENT LTC SENSE (D8h). When the command is sent, an 8-byte data packet is returned.

CTL time code recording and playback

Recording

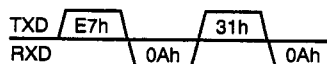
Rewind the tape to the beginning.

Engage the recording mode.

Counting starts from the preset value and recording is performed. If no data is preset, recording starts from "00:00:00:00".

Playback

Set the current timer to LTC.



Play back a CTL time code-recorded tape. The CTL data is displayed on the counter display and on-screen.

This data can be checked with CURRENT LTC SENSE (D8h).

However, because CTL time code is read every two seconds during playback, check to make sure that the time code is not CTL interpolation. When programming, you can check by confirming that the CTL interpolation bits (the second and third bits) are 0.

BASIC TABLE

	High-order															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			Data"0"	ENTER	IN ENTRY								AUTO EDIT		LTC PRESET	0
1	COMPLETION		Data"1"	CLEAR ERROR	OUT ENTRY										LTC UB PRESET	1
2	ERROR		Data"2"	CUE UP WITH DATA	IN FLAG RESET					PRE-ROLL	CUE UP WITH DATA	REVIEW			COUNTER RESET	2
3	CASSETTE OUT		Data"3"		OUT FLAG RESET					EJECT					IN DATA PRESET	3
4			Data"4"	REPEAT							REPEAT	FULL EE ON			OUT DATA PRESET	4
5	NOT TARGET		Data"5"								F-SHUTTLE	FULL EE OFF			EDIT PRESET	5
6			Data"6"		CLEAR						R-SHUTTLE				JVC TABLE 1 ON	6
7			Data"7"											STATUS SENSE	TIMER MODE SELECT	7
8			Data"8"										SELECT EE ON	CURRENT LTC SENSE		8
9			Data"9"										SELECT EE OFF	CURRENT CTL SENSE		9
A	ACK		PLAY	REV X1	MEMORY								REC	IN DATA SENSE		TUNER STATUS
B	NAK		FWD X5	REV X5	MEMORY SEARCH					FF			REC PAUSE	OUT DATA SENSE	TC SW PRESET	REC/DUB REQUEST
C			FWD X1/6	REV X1/6						REW			AUDIO DUB	CURRENT LTC UB SENSE		A
D			F-STILL	R-STILL						F-FIELD STEP			AUDIO DUB PAUSE	JVC STATUS SENSE		D
E			FWD X7	REV X7						R-FIELD STEP			EDIT ON			E
F			STOP	STILL									EDIT OFF			F

OTHERS

JVC TABLE 1

	High-order																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
Low-order	0			Data"0"	ENTER							VISS FWD					0
	1	COMPLETION		Data"1"	CLEAR ERROR							VISS REV		DEVICE TYPE REQUEST			1
	2	ERROR		Data"2"				ROM VER. SENSE				CUE UP WITH DATA			COUNTER RESET		2
	3	CASSETTE OUT		Data"3"						EJECT				MEMORY SW SENSE			3
	4			Data"4"									FULL EE ON				4
	5	NOT TARGET		Data"5"								F-SHUTTLE	FULL EE OFF				5
	6			Data"6"		CLEAR						R-SHUTTLE					6
	7			Data"7"										STATUS SENSE	TIMER MODE SELECT	JVC TABLE 1 OFF	7
	8			Data"8"										CURRENT LTC SENSE			8
	9			Data"9"										CURRENT CTL SENSE		TUNER STATUS	9
	A	ACK			PLAY		MEMORY						REC			REC/DUB REQUEST	A
	B	NAK					MEMORY SEARCH	OPERATE ON		FF			REC PAUSE			VCR INQ	B
	C							OPERATE OFF		REW			AUDIO DUB	CURRENT LTC UB SENSE			C
	D									F-FIELD STEP			AUDIO DUB PAUSE	JVC STATUS SENSE	MEMORY SW PRESET		D
	E									R-FIELD STEP							E
	F				STOP STILL												F

How to represent time data

Tape position and time data for time codes are represented as follows while being sent and returned.
The ten's and one's places of hours, minutes, seconds and frames are represented by 1-byte ASCII codes.

Example 12 hours 34 minutes 56 seconds 00 frames

Unit	Hours		Minutes		Seconds		Frames	
Place	10	1	10	1	10	1	10	1
Time	1	2	3	4	5	6	0	0
ASCII code	31h	32h	33h	34h	35h	36h	30h	30h

24-hour system and 9-hour system

Time data can be represented by the 24-hour system or the 9-hour system.

The 24-hour system is able to represent the time data from 00 hours 00 minutes 00 seconds 00 frames to 23 hours 59 minutes 59 seconds 24 frames.

The 9-hour system is able to represent the time data from - 9 hours 59 minutes 59 seconds 24 frames to 9 hours 59 minutes 59 seconds 24 frames.

Representation

Representation is given when the ten's place of time digit falls upon the ASCII code of 38h

Example -6 hours 54 minutes 32 seconds 10 frame

Unit	Hours		Minutes		Seconds		Frames	
Place	10	1	10	1	10	1	10	1
Time	-	6	5	4	3	2	1	0
ASCII code	38h	36h	35h	34h	33h	32h	31h	30h

ASCII Code table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	P		p									
1				1	A	Q	a	q								
2				2	B	R	b	r								
3				3	C	S	c	s								
4				4	D	T	d	t								
5				5	E	U	e	u								
6				6	F	V	f	v								
7				7	G	W	g	w								
8				8	H	X	h	x								
9				9	I	Y	i	y								
A					J	Z	j	z								
B					K		k									
C					L		l									
D					M		m									
E					N		n									
F					O		o									

OTHERS

TROUBLESHOOTING

Symptoms	Causes	Actions
S-VHS recording disabled	● VHS tape in use ● Menu Switch No. 100 S-VHS SELECT set to VHS.	● Use the S-VHS tape. ● Set Menu Switch No.100 S-VHS SELECT to AUTO
No on-screen display comes up	● Menu Switch No. 500 ONSCREEN DISPLAY set to OFF.	● Set Menu Switch No. 500 ONSCREEN DISPLAY to ON.
No video signal input	● Front panel Y/C.LINE video input select switch setting not matching the video input signal.	● Correctly set the Y/C.LINE video input select switch.
Hi-Fi sound recording disabled	● Menu Switch No. 200 Hi-Fi AUDIO REC set to OFF.	● Set Menu Switch No. 200 Hi-Fi AUDIO REC to ON.
Control with SR-S388E disabled	● Front panel RS-232C/LOCAL/REMOTE switch set to RS-232C or REMOTE.	● Set RS-232C/LOCAL/REMOTE switch to LOCAL.
Recording disabled	● Cassette's safety tab has been removed.	● Cover the hole with adhesive tape.
Audio dubbing and assembly/insert editing disabled	● Tape recorded in LP mode in use.	● Not operable with the tape recorded in LP mode. Compatible only with the tape recorded in standard (SP) mode.
CTL time code recording disabled	● Recorded in LP mode. CTL time recording disabled in LP mode.	● Record in standard (SP) mode.
Playback picture noisy or coarse	● Tracking incorrect. ● Video heads are dirty.	● Adjust tracking. ● Clean the video head.
No sound during playback	● Output not from the channel recorded.	● Select the channel with audio recorded with AUDIO OUT SELECT button.
Hi-Fi sound noisy during playback	● Tracking incorrect.	● Adjust tracking.
No Hi-Fi sound during search	● Hi-Fi sound not available in search mode.	—
If the unit is on, the power is automatically turned off.	● Warning signal detected.	● Turn the power on again. If the power doesn't come on, there is probably a problem with the deck. Contact your JVC dealer.

Since the SR-S388E incorporates microprocessors, it may not function properly when exposed to externally generated electrical interference.
If this happens, turn the power off and unplug the power cord. Wait one minute, then turn the power on again and check to see that the unit is functioning properly.

OTHERS

SPECIFICATIONS

- **Recording system** Luminance: FM
Chroma: Low-range conversion
- **Signal format** PAL-type colour signal/PAL-type Y/C signal
- **Tape speed** 23.39 mm/sec Standard (SP) mode
11.7 mm/sec Extended (LP) mode
- **Record/playback time** 3 hrs. (standard SP mode)
6 hrs. (LP mode) with E-180 tape
- **FF/REW time** Approx. 150 sec. (with E-180 recorded tape)
- **Power supply** AC 220 – 240 V, 50/60 Hz
- **Power consumption** 22 W (28 W when using RM-G800U)
- **External dimensions** W400 x H94 x D341 mm
- **Weight** Approx. 5.0 kg
- **Allowable operating temperatures** ... +5°C to +40°C
- **Allowable operating humidities** 35 to 80% RH
- **Allowable storage temperatures** -20°C to +60°C

[VIDEO]

- **Signal input** LINE : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Y/C Y : 1.0 Vp-p, 75 ohms, unbalanced
C : 0.3 Vp-p, 75 ohms, unbalanced (Burst)
- **Signal output** LINE : 1.0 Vp-p, 75 ohms, unbalanced
Y/C Y : 1.0 Vp-p, 75 ohms, unbalanced
C : 0.3 Vp-p, 75 ohms, unbalanced (Burst)
- **Horizontal resolution** More than 400 lines (S-VHS)
More than 240 lines (VHS)
- **Video S/N** More than 43 dB (S-VHS)

[AUDIO]

- **Number of tracks** 3 (Hi-Fi x 2, Normal x 1)
- **Line input** -8 dBs, 50 kohms, unbalanced
- **Line output** -8 dBs, 1 kohm, unbalanced
- **Headphone output** -∞ to -11dBs, 8 ohms, unbalanced
- **Hi-Fi sound characteristics**
 - **Frequency response** 20 Hz to 20 kHz
 - **Dynamic range** More than 85 dB
 - **Wow & flutter** Less than 0.006 % W.RMS
- **Normal sound characteristics**
 - **Frequency response** 100Hz to 10 kHz (SP mode)
 - **Wow & flutter** Less than 0.35 % RMS (SP mode)

* Design and specifications subject to change without notice.

荧光屏显示内容和菜单开关

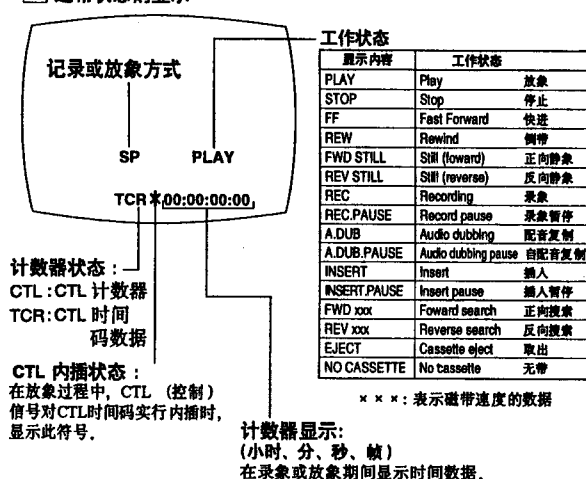
荧光屏显示内容

本机的计数器及本机的动作状态等情报可以表示在监视器荧光屏上。另外菜单开关的设定、随机汇编的程序设定、时刻设定等都可以在荧光屏上进行。

- 荧光屏显示信号在放象状态时与放象时的图象信号重叠、停止或记录状态时与输入信号重叠、之后，从后面板的视频监视器输出端输出。

没有输入视频信号时，数据将显示在兰色背景上。

1 通常状态的显示



在荧光屏上显示如下所示内容

1. 计数器和录像机动作状态的显示

通常状态的显示。

- 菜单开关No 500 [屏幕显示] 的设定为〈开〉时，荧光屏上有显示。要取消荧光屏显示时，请将此开关设定为〈关〉。
- 利用菜单开关No 504 [选择显示]，可以选择计数器和录像方式同时显示还是只显示计数器。

2. 菜单开关设定的显示。

显示菜单开关设定画面。

- 按 [MENU] 按钮，显示主菜单画面。然后使用 [SELECT] 和 [SET] 按钮选择 "MEMORY SW" (存储器开关) 后，菜单开关设定画面将被显示在荧光屏上。
- 设定完毕以后，按 [MENU] 按钮则返回到通常画面。详细内容请参考第 13 页 "菜单开关的设定"。

3. 随机汇编选择的显示

显示随机汇编程序设定画面。

- 按 [MENU] 按钮，显示主菜单画面。然后使用 [SELECT] 和 [SET] 按钮选择 "R.A. 编辑" 后，随机汇编选择画面将被显示在荧光屏上。
- 设定完毕以后，按 [MENU] 按钮则返回到通常画面。详细内容请参考第 26 页 "随机汇编"。

4. 时间设定画面。

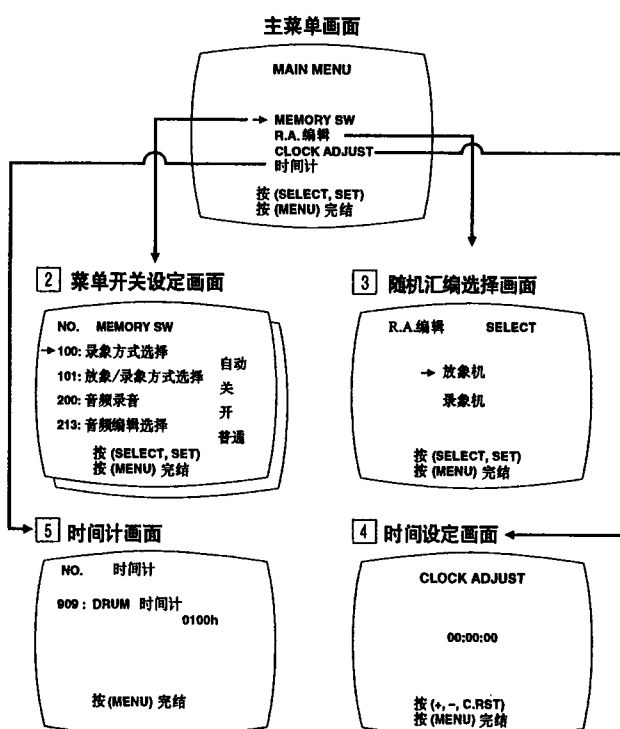
显示设定时间画面。

- 按 [MENU] 按钮，显示主菜单画面。然后使用 [SELECT] 和 [SET] 按钮选择 "CLOCK ADJUST" 后，设定时间画面将被显示在荧光屏上。
 - 设定完毕以后，按 [MENU] 按钮则返回到通常画面。本机的显示器上将显示所设定的时间。(在未装入录像带时或电源被切断时。)
- 详细内容请参考第 17 页 "时间的设定方法"。

5. 时间计显示

显示磁鼓的使用时间。

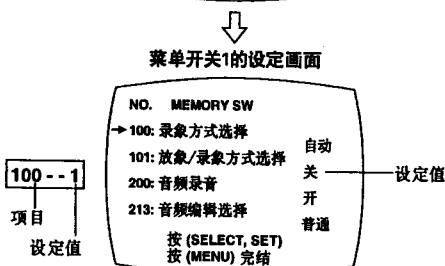
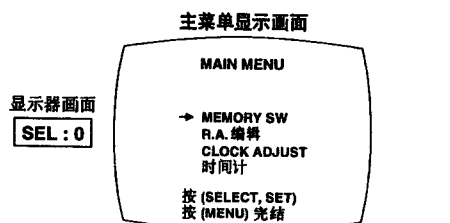
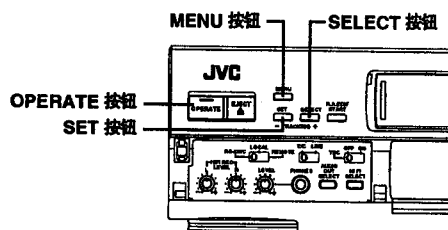
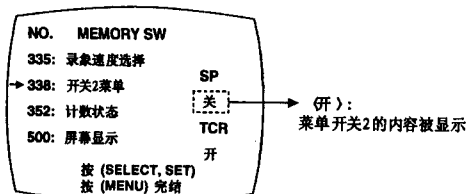
- 按 [STOP] 按钮的同时按 [MENU] 按钮，显示副菜单画面。然后使用 [SELECT] 和 [SET] 按钮选择 "时间计" 后，时间计画面将被显示在荧光屏上。
- 当菜单开关No 338 [开关2菜单] 被设定为〈开〉时，也可以从主菜单画面中选择 "时间计"。
- 设定完毕以后，按 [MENU] 按钮则返回到通常画面。详细内容请参考第 18 页 "时间计的显示"。



荧光屏显示内容和菜单开关

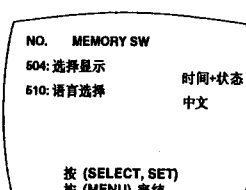
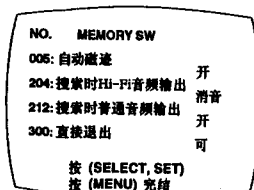
菜单开关的设置

在本机中，除操作板上的开关以外，还有在监视器荧光屏上设定的“菜单开关”。这个菜单开关的设定内容被保存在永久性存储器中，即使本机电源被切断也不会消失。



当菜单开关No.338[开关2菜单]设定为〈开〉时

菜单开关2的设定画面



菜单开关的构成

由于操作性的关系，本机中可以设定的菜单开关被分为两类。

- 菜单开关1：在初始状态（开封时）便可操作的开关。
录像状态的设定、高保真声音记录的开和关等，是使用频率较高的开关。
- 菜单开关2：菜单开关1中的No.338 [开关2菜单] 开关处于“OPEN”状态时，可以进行设定的开关。

属于菜单开关2的项目是使用频率较低的开关。出厂时菜单开关No.338 [开关2菜单] 设定为〈关〉，主菜单中属于菜单开关2的开关不能直接进行设定，只有在No.338 [开关2菜单] 设定为〈开〉时，才能设定属于菜单开关2的开关。

菜单开关的设定方法

1. 接通电源。
2. 开始设定菜单开关。
按 [MENU] 按钮。
→ 荧光屏上显示 MAIN MENU（主菜单）画面。
项目号和设定值等数字被表示在本机的显示器上。
3. 设定菜单开关用画面。
· 使用 [SELECT] 按钮，使箭头指向“MEMORY SW”，然后按 [SET] 按钮。
→ 菜单开关1的设定画面被显示在荧光屏上。
4. 选择要设定的菜单开关。
按 [SELECT] 按钮，使箭头指向要设定的项目。
5. 设定所选择的菜单开关。
按 [SET] 按钮，调整设定值。
需要设定多数项目时，请重复“4.”和“5.”项。

当菜单开关No.338 [开关2菜单] 设定为〈开〉时，MAIN MENU 中属于菜单开关2的项目也可以设定。

6. 结束菜单开关的设定。

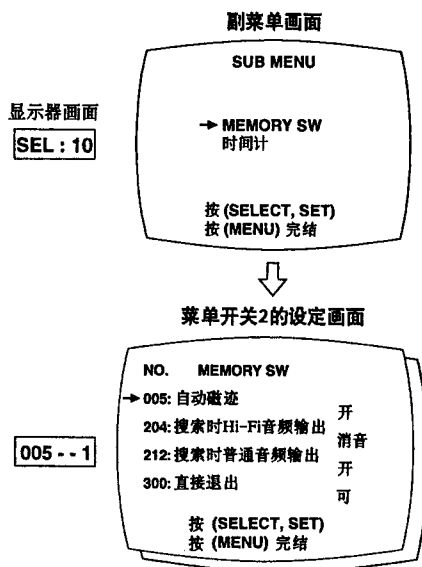
按 [MENU] 按钮。
→ 菜单开关画面的显示被解除。

注意：

- 在记录过程中，不能设定有关记录状态的菜单开关。

荧光屏显示内容和菜单开关

菜单开关的设定 (续)



设定属于菜单开关 2 的项目

菜单开关 № 338 [开关 2 菜单] 设定为〈开〉时, 主菜单中菜单开关 1 的项目设定完成之后, 还可以继续设定菜单开关 2 中的项目。即使菜单开关 № 338 [开关 2 菜单] 被设定为〈关〉时, 也可以通过以下的操作, 设定菜单开关 2 中的项目。

1. 接通电源。
2. 使荧光屏上显示副菜单画面。
在按着 [STOP] 按钮的同时按 [MENU] 按钮。
→ 副菜单画面被显示在荧光屏上。
3. 使荧光屏上显示菜单开关 2 的设定画面。
使用 [SELECT] 按钮, 使箭头指向 "MEMORY SW", 然后按 [SET] 按钮。
→ 菜单开关 2 的设定画面被显示在荧光屏上。
4. 设定菜单开关。
按 [SELECT] 按钮, 使箭头指向要设定的项目, 然后按 [SET] 按钮, 调整设定值。
5. 结束菜单开关的设定。
按 [MENU] 按钮。
→ 菜单开关画面的显示被解除。

菜单开关一览表

下表中列出了菜单开关的名称和内容。详细内容见参考页。

菜单开关 1

No.	名称	内容	参考页
100	录象方式选择	使用 S-VHS 录象带时 S-VHS 记录的实行与否	15
101	放象 / 录象画面选择	放象或录象时画面质量的选择	15
200	Hi-Fi 音频录音	高保真声音记录的开关	15
213	音频编辑选择	配音复制方式的选择	15
335	录象速度选择	记录方式 (SP/LP) 的选择	15
338	开关 2 菜单	菜单开关 2 的项目表示与否的选择	15
352	计数状态	计数器表示方式的选择 (CTL/TCR)	15
500	屏幕显示	荧光屏显示的开关	15

菜单开关 2

005	自动磁迹	自动跟踪调整开关	16
204	搜索时 Hi-Fi 音频输出	搜索时声音输出的选择 (在使用 AUDIO OUT SELECT 按钮选择高保真声音时)	16
212	搜索时普通音频输出	搜索时普通声音的开关 (在使用 AUDIO OUT SELECT 按钮选择普通声音时)	16
300	直接退出	可直接排出状态的选择	16
312	完带状态	在磁带终端时动作的选择 (自动倒带的开关)	16
353	R.A. 编辑时间调节	随机汇编的输出时间的设定	16
354	RS-232C 传送速度选择	RS-232C 通信速度的选择	16
359	宽屏记录	画面尺寸判断信号的记录开关	16
504	选择显示	荧光屏显示为〈开〉时, 画面显示内容的选择	16
510	语言选择	荧光屏显示画面使用语言的选择	16

荧光屏显示内容和菜单开关

菜单开关 1 的内容

[] 内为出厂时的设定。() 内的数值被显示在本机显示屏上。

项目 No.	名称	设定值	内容
100	S-VHS SELECT 录象方式选择	[自动 (1)] VHS (0)	在使用 S-VHS 录象带时 S-VHS 记录方式使用与否的设定。 自动 : 在使用 S-VHS 录象带时以 S-VHS 方式记录, 在使用 VHS 录象带时以 VHS 方式记录。 VHS : 以 VHS 方式记录。当以 VHS 方式记录 S-VHS 象带时使用此方法。
101	EDIT SELECT 录象 / 放象画面选择	[关 (0)] 复制 (1) 轮廓增强 (2)	放象或录象时图象质量的选择。 关 : 以普通画质放象。 复制 : 复制或编辑时, 放象机设定于此状态, 可以减少画质的劣化。 轮廓增强: 强调放象时图象的轮廓。
200	Hi-Fi AUDIO REC. Hi-Fi 音频录音	关 (0) [开 (1)]	高保真声音记录与否的设定。 关 : 不记录高保真声音。 开 : 记录高保真声音。
213	A. DUB SELECT 音频编辑选择	[普通 (0)] 放音自己带 Hi-Fi 音频 (1)	选择配音复制时的动作。 普通 : 在普通声音磁迹上进行后期配音。 放音自己带 Hi-Fi 音频 : 一边播放已录制的高保真声音, 一边同一盘磁带的在普通声音磁迹上进行后期配音。 只有在自配音复制时设定于此处, 除此之外请设定于〈普通〉。
335	RECORDING MODE 录象速度选择	[SP (0)] LP (1)	记录时磁带速度的设定。 SP : 使用 SP 方式进行记录。 LP : 使用 LP 方式进行记录。
338	MENU SW 2 开关 2 菜单	[关] 开	为了进入菜单开关 2 而实行的设定。 关 : 不显示菜单开关 2 的设定画面。 开 : 在菜单开关 1 的设定画面之后, 可进入菜单开关 2 的设定画面。
352	COUNTER MODE 计数状态	[TCR (4)] CTL (1)	计数器显示内容的选择。 TCR : 显示 CTL 时间码数据。 CTL : 显示 CTL 计数器。
500	ON SCREEN DISPLAY 屏幕显示	关 (0) [开 (1)]	菜单开关在监视器荧光屏上显示与否的设定。 关 : 不在荧光屏上显示。 开 : 显示在荧光屏上。 荧光屏显示将从后面板的监视器输出端被输出。

荧光屏显示内容和菜单开关

菜单开关 2 的内容

[] 内为出厂时的设定。() 内的数值被显示在本机显示屏上。

项目 No.	名称	设定值	内容
005	AUTO TRACKING 自动磁迹	关 (0) [开 (1)]	自动跟踪的开关。 关 : 自动跟踪功能无效。在放象过程中手调跟踪时设定于此处。 开 : 放象时自动调整跟踪。
204	Hi-Fi OUT AT SEARCH 搜索时 Hi-Fi 音频输出	[消音 (0)] 普通 (1)	在搜索时可选择对高保真声音进行无声处理或输出普通声音 (限于 AUDIO OUT SELECT 按钮设定为高保真声音时有效。) 消音 : 对高保真声音进行无声处理。 普通 : 搜索、时输出普通声音。
212	NORM. OUT AT SEARCH 搜索时普通音频输出	关 (0) [开 (1)]	在搜索时,可在普通声音的无声处理和普通声音的输出之间进行选择。 (限于 AUDIO OUT SELECT 按钮设定为普通声音时有效。) 关 : 对普通声音进行无声处理。 开 : 输出普通声音。
300	DIRECT EJECT 直接退出	不可 (0) [可 (1)]	直接排出方式的设定。 不可 : 只能从停止状态排出磁带。 可 : 在任何状态下都能直接排出磁带。
312	MODE AT TAPE END 完带状态	停 (0) [倒卷 (1)]	在放象、录象、快进时, 磁带走完之后的动作的设定。 停 : 磁带走完停止。 倒卷 : 磁带走到末端后倒带, 然后停止。
353	R. A. EDIT ADJUST R.A. 编辑时间调节	-4 帧 (0) -3 帧 (1) -2 帧 (2) -1 帧 (3) [0 帧 (4)] +1 帧 (5) +2 帧 (6) +3 帧 (7)	随机汇编时设定编辑时间。编辑点可根据设定值进行移动。
354	BAUDRATE SELECT RS-232C 传送速度选择	1200 (0) 2400 (1) 4800 (2) [9600] (3)	RS-232C 数据传送速度 (bps) 的设定。
359	16 : 9 REC 宽屏记录	关 (0) 开 (1) [自动 (2)]	在录象时, 普通画面尺寸和宽银幕尺寸 (16:9) 识别信号的记录与否的选择。 关 : 不记录。 开 : 记录。 自动 : 从 Y/C 端来的图象信号中有宽银幕识别信号时, 则进行记录。
504	INFORMATION SELECT 选择显示	时间 (0) [时间 + 状态 (1)]	荧光屏显示内容的设定。 时间 : 只表示有关时间的数据。 时间 + 状态 : 表示关于时间和录象机状态的数据。
510	LANGUAGE SELECT 语言选择	英文 (0) [中文 (1)]	荧光屏显示的语言可在英文和中文之间进行选择。 英文 : 用英文表示。 中文 : 用中文表示。

荧光屏显示内容和菜单开关

时间的设定方法

设定了时间以后，在切断电源后或没插入录象带时，时间将被显示在本机的显示器上。

- 在没有设定时间时，显示器上闪现 "--:--" 图样。
- 本机表示的时间为 24 小时制。

显示器画面

SEL: 02

00:00:00 Adj

12:00:00 Adj

12:30
没有装入磁带时

荧光屏画面

MAIN MENU

→ MEMORY SW
R.A. 编辑
CLOCK ADJUST
时间计

按 (SELECT, SET)
按 (MENU) 完结

CLOCK ADJUST

00:00:00

按 (+, -, C.RST)
按 (MENU) 完结

CLOCK ADJUST

12:00:00

按 (+, -, C.RST)
按 (MENU) 完结

SP NO CASSETTE
CTL 0:00:00:00

1. 接通电源。

按 [OPERAT] 按钮。

→ [OPERAT] 指示灯和液晶显示器点灯。

2. 按 [MENU] 按钮。

→ 荧光屏上显示 MAIN MENU (主菜单) 画面。

在本机的显示器上显示项目号和设定值的数字。

3. CLOCK ADJUST (时间调整) 画面。

按 [SELECT] 按钮，使箭头对准 CLOCK ADJUST 后按 SET 按钮。

→ 荧光屏上显示 CLOCK ADJUST 画面，"小时" 位闪烁。

4. 按 [- SET] 或 [+ SELECT] 按钮，调整小时位的数字。

按 [- SET] 按钮数值变小，按 [+ SELECT] 按钮数值变大。

5. 按 [C.RESET] 按钮。

→ "分" 位开始闪烁。

6. 按 [- SET] 或 [+ SELECT] 按钮，调整小时位的数字。

按 [- SET] 按钮数值变小，按 [+ SELECT] 按钮数值变大。

7. 结束 CLOCK ADJUST 状态。

按 [MENU] 按钮。

→ 结束 CLOCK ADJUST 状态。荧光屏上显示出普通画面。

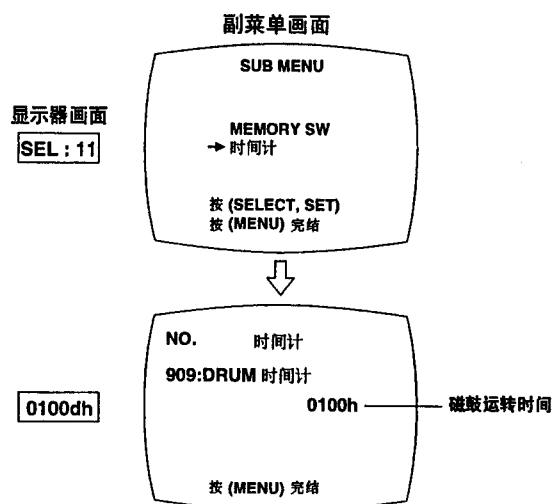
在没有插入象带时或没有接通电源时显示器上显示时刻，插入象带后显示计数器数值。

时钟的误差为 ± 1 分 / 月。

荧光屏显示内容和菜单开关

时间计的显示

荧光屏上的时间计表示磁鼓使用时间。



1. 接通电源，使本机处于停止状态或未装入象带的状态。

2. 按着 [STOP] 按钮的同时按 [MENU] 按钮。
→ 副菜单画面被显示在荧光屏上。

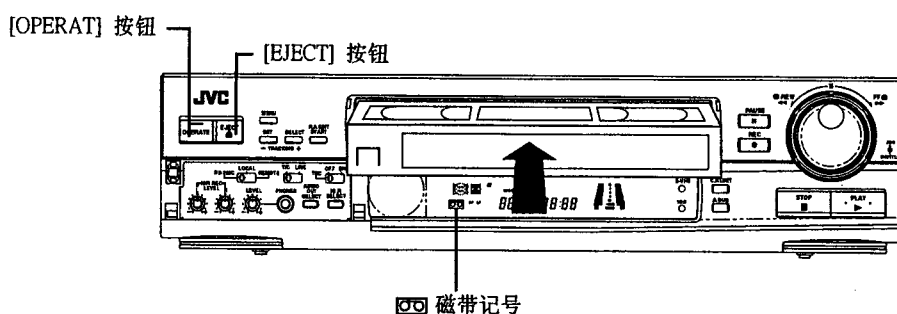
菜单开关№338 [开关2菜单] 设定为〈开〉时，可以从主菜单直接进入副菜单。（只按 [MENU] 按钮即可）

3. 按 [SELECT] 按钮，使箭头对准时间计后按 SET 按钮。

→ 打开时间计画面，磁鼓使用时间被表示出来。

4. 结束时间计的显示时请按 [MENU] 按钮。
→ 显示普通画面。

磁带的装入和取出



1. 接通电源。

按 [OPERAT] 按钮。
→ [OPERAT] 按钮指示灯和显示器点灯。

在切断电源的状态下插入磁带时，电源会自动接通。（自动通电）

2. 装入磁带。

卷取磁带的松弛部分，将磁带标签朝外，推动磁带的中间部分，插入磁带。

→ 磁带将自动被吸入机内，录像机进入停止状态，显示屏上显示磁带记号。

- 计数器自动回零 (0:00:00:00)。
- CTL 时间码也变为 "00:00:00:00"

3. 取出磁带。

按 [EJECT] 按钮。
→ 磁带自动被排出。
• 显示屏上的磁带记号消失。

在录像带被自动吸入的过程中，不要强行取象带。要取出时，请在录像带被吸入后按 [EJECT] 按钮。

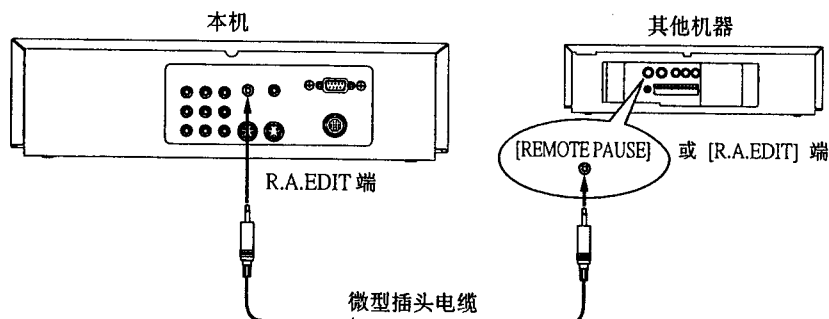
菜单开关№300 [直接退出] 的设定可以限制可排出的状态。当设定于〈不可〉时，只有在停止状态下才能排出象带。

特殊功能

随机汇编 (R.A. 编辑)

在本机的后面板上备有 [R.A.EDIT] 端子, 把这个端子接到其它机器的 [REMOTE PAUSE] 端或 [R.A.EDIT] 端 (SR-S388EC) 时, 可以进行简单的编辑。

可以实行 8 个场面的编程, 按照设定的顺序可以进行简单的编辑。



连接

■ 连接视频和音频的输出、输入端。

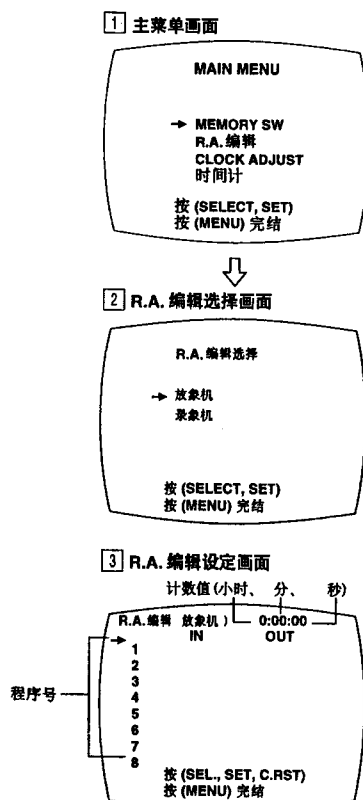
■ 连接本机的 [R.A.EDIT] 端和其它机器的 REMOTE PAUSE 端 (或 R.A.EDIT 端)。

本机作为放象机使用和作为录象机使用时的设定方法不同。

当作为录象机使用时, 能够设定的程序只有 1 个。

※放象机和录象机都编有程序时, 不能实行随机汇编。

本机作为放象机使用



设定随机汇编状态

1. 使荧光屏上显示主菜单画面。

按 [MENU] 按钮。

→主菜单画面将被显示在荧光屏上。

2. 随机汇编状态的设定。

按 [SELECT] 按钮, 使箭头指向 "R.A. 编辑", 按 [SET] 按钮。

→荧光屏上显示 "R.A. 编辑选择" 画面。

3. 选择放象机。

当箭头对准 "放象机" 时, 按 [SET] 按钮。

• 没有对准 "放象机" 时, 按 [SELECT] 按钮, 使箭头对准 "放象机", 然后按 [SET] 按钮。

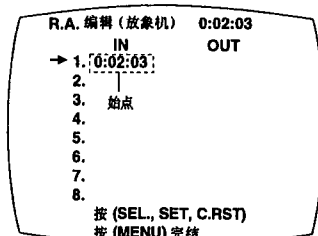
→本机被指定为放象机, 设定程序用的 R.A. 编辑画面被显示在荧光屏上。

• 此时箭头指向程序 1 的位置。箭头所指的号码表示要设定的程序号。

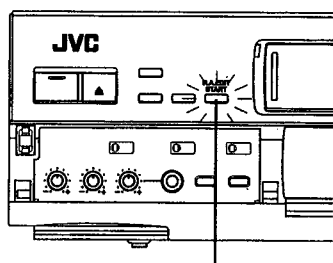
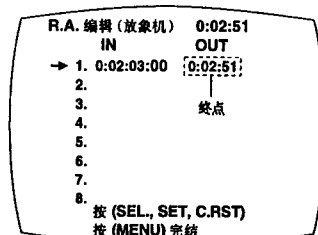
特殊功能

随机汇编的方法

4 设定IN点

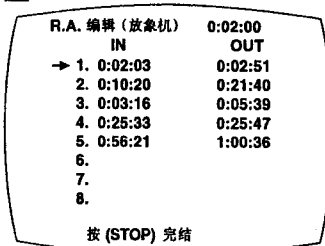


7 设定OUT点

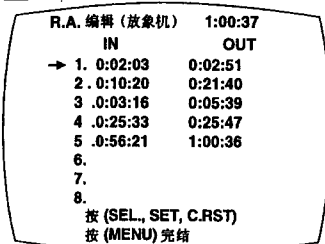


R.A.EDIT START 按钮闪烁

10



11



程序的设定

4. 设定程序 1 的编辑始点.

- 使本机处于播放状态, 用 [SHUTTLE/JOG] 盘找出编辑的始点, 并使机器进入静象放象状态, 按 [SET] 按钮.
- 编辑始点的时刻被复写在程序的始点.

5. 设定程序 1 的编辑终点.

- 旋转 [SHUTTLE/JOG] 盘, 找出程序 1 的编辑终点, 并使机器进入静象放象状态, 按 [SET] 按钮.
- 编辑终点的时刻被复写在程序 1 的终.
- 箭头将指向下一个程序的位置.

6. 要设定多个程序时请重复步骤 4、5.

- ※ • 编辑的始点和终点不要设定在磁带的始端和终端, 编辑始点应设在离磁带始端 5 分钟以上的位置.
- 始点和终点都要设定, 如果只设定了一方, 将不能实行随机汇编.

实行随机汇编

■ 将录象机设定于记录暂停状态.

7. 开始随机汇编.

- 按本机的 [R.A.EDIT START] 按钮.
- 开始自动地按程序编号的顺序进行编辑.
- 在寻找编辑始点时, 显示 "R.A. 编辑" 画面. 箭头所指的程序是正在搜索的程序.
- 开始编辑时, 荧光屏画面消失.

8. 所有程序的编辑结束时.

- 荧光屏上再次出现 "R.A. 编辑" 画面, 本机为静象放象状态, 设定画面中的箭头将回到最初的位置.
- 录象机按照程序编号的顺序记录完毕后, 进入记录暂停状态.

9. 继续进行随机汇编时.

- 再次设定程序, 之后按 [R.A.EDIT START] 按钮.

10. 解除随机汇编状态.

- 按 [STOP] 按钮.
- 随机汇编状态被解除.

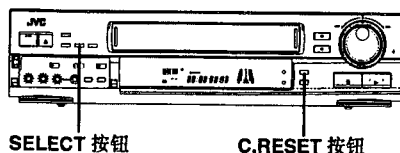
11. 结束随机汇编.

- 按放象机的 [MENU] 按钮.
- 监视器显示普通画面.
- 按放象机和录象机的 [STOP] 按钮.
- 放象机和录象机都成为停止状态.

- ※ • 编辑开始的时间可以利用菜单开关 №353 [R.A. 编辑时间调节] 进行微调.
- " - " 方向时录象机的编辑点提前, "+" 方向时, 录象机的编辑点错后.

特殊功能

随机汇编的方法



注意：不能单独取消 IN 点的数据。

修改程序

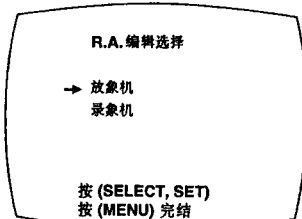
在设定程序时，设定的数据可以取消。

1. 选择要修改的 R.A. 编辑画面中的程序号。
按 [SELECT] 按钮，使箭头对准要修改的程序号。
2. 按 [C.RESET] 按钮。
→ OUT 点 (终点) 的数据被取消。
3. 要取消 IN 点 (始点) 的数据时，请再按一下 [C.RESET] 按钮。
→ IN 点的数据也被取消。
■ 此时如果切断电源的话，所有的数据都被取消。
4. 重新设定程序中的数据。

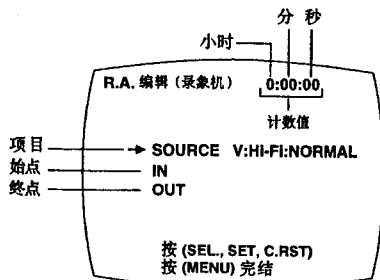
本机作为录象机使用

本机作为录象机使用时，只能进行一个程序的插入编辑。

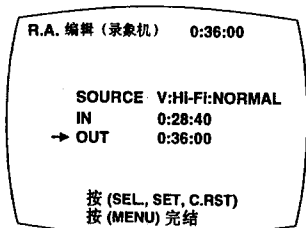
2 R.A. 编辑选择画面



3 录象机程序设定画面



4 5 6 程序设定



※ 编辑开始的时间可以利用菜单开关 № 353 [R.A. 编辑时间调节] 进行微调。
“-”方向时录象机的编辑点提前，“+”方向时，录象机的编辑点错后。

选择随机汇编用录象机

1. 按 [MENU] 按钮，使荧光屏上显示主菜单画面。
2. 按 [SELECT] 按钮，使箭头指向 "R.A. 编辑"。
→ 荧光屏上显示 "R.A. 编辑选择" 画面。
3. 选择录象机。
按 [SELECT] 按钮，使箭头对准 "录象机"，然后按 [SET] 按钮。
→ 录象机的程序设定画面被显示在荧光屏上。

程序的设定

4. 选择插入项目。
 - 按 [SELECT] 按钮，使箭头对准 "SOURCE"，然后用 [SET] 按钮从下记条目中选择插入项目。
 - V: Hi-Fi: NORMAL 插入 "图象 + Hi-Fi 声音 + 普通声音"
 - VIDEO: Hi-Fi 插入 "图象 + Hi-Fi 声音"
 - NORMAL 插入 "普通声音"※ 菜单开关 № 200 [Hi-Fi 音频录音] 设定为 OFF 时，不显示 SOURCE (原始资料) 中的 Hi-Fi 声音。
5. 编辑始点的设定。
 - 按 [SELECT] 按钮，使箭头对准 IN。
 - 旋转 [SHUTTLE/JOOG] 转盘，在要插入部分的始点使本机进入静象放象状态，然后按 [SET] 按钮。
→ 插入始点的时刻被复制到 IN 点。
6. 以同样的方法，把编辑终点的时刻复制到 OUT 点。

实行插入编辑

■ 使放象机处于静象放象状态。

7. 按本机的 [R.A.EDIT START] 按钮。
 - 按指定的项目开始插入编辑。此时 TBC 无效。
 - 本机将在编辑终点停止录象，继续前进 1 秒钟后，进入静象放象状态，自动结束插入编辑。

- 需要修改程序时
 - 按 [SELECT] 按钮，使箭头对准要修改的程序号，然后按 [C.RESET] 按钮。
→ 所选择的项目被取消。
 - 如果切断电源的话，所有的数据都被取消。
 - 取消旧的数据后重新设定新的数据。

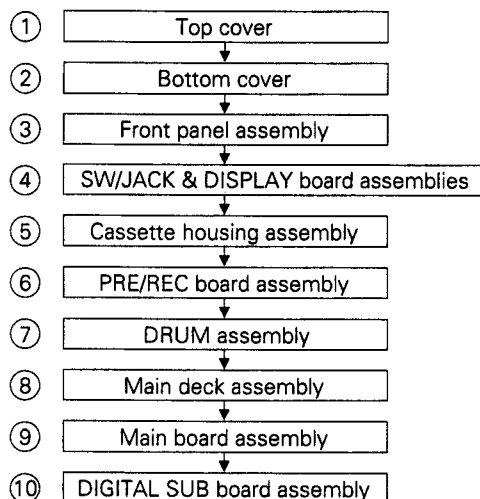
SECTION 1

SERVICE CAUTIONS AND DISASSEMBLY

1.1 REMOVAL OF MAIN PARTS

1.1.1 DISASSEMBLY FLOW CHART

This flowchart shows the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	5(S3),	
②	BOTTOM COVER	D2	(S5), 7(L1),2(P1)	
③	FRONT PANEL ASSEMBLY	D3	7(L2),*JOG/SHUTTLE	<NOTE1>
④	SW/JACK & DISPLAY BOARD ASSEMBLIES	D4	13(L3),*CN1,*CN3,*CN5	<NOTE2>
⑤	CASSETTE HOUSING ASSEMBLY	D5	2(S1),2(S12) EARTH PLATE	<NOTE3>
⑥	PRE/REC BOARD ASSEMBLY	D6	2(S9),*CN1,*CN203,*CN204 SHIELD CASE	

↑ (1) ↑ (2) ↑ (3) ↑ (4) ↑ (5)

- (1) Order of steps in procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.
- (2) Part name to be removed or installed.
- (3) Fig.No. showing procedure or part location
- (4) Identification of part to be removed,unhooked,unlocked, released,unplugged,unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, * = Unhook,unlock, release,unplug or unsolder.
- (5) Additional information for installation

1.1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	5(S3),	
②	BOTTOM COVER	D2	(S5), 7(L1),2(P1)	
③	FRONT PANEL ASSEMBLY	D3	7(L2),*JOG/SHUTTLE	<NOTE1>
④	SW/JACK & DISPLAY BOARD ASSEMBLIES	D4	13(L3),*CN1,*CN3,*CN5	<NOTE2>
⑤	CASSETTE HOUSING ASSEMBLY	D5	2(S1), 2(S12) EARTH PLATE	<NOTE3>
⑥	PRE/REC BOARD ASSEMBLY	D6	2(S9),*CN1,*CN203,*CN204 SHIELD CASE	
⑦	DRUM ASSEMBLY	D7	3(S8),WR3,4(L4), (L5) INERTIA PLATE HEAD CLEANER	<NOTE4>
⑧	MAIN DECK ASSEMBLY	D8	2(S13),WR5,WR7, WR8,2(L6),*CN603	<NOTE5>
⑨	MAIN BOARD ASSEMBLY	D9	5(S1), (S5),(L7)	
⑩	DIGITAL SUB BOARD ASSEMBLY	D9	4(S1),(L8)	

<NOTE1>

When reattaching the front panel assembly, make sure that the door opener of the cassette housing assembly is lowered in position prior to the reinstallation.

<NOTE2>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE3>

When reattaching the cassette housing assembly, pay careful attention to the switch lever not to make it touch the REC switch knob of the REC SAFETY board assembly from the upside.

(If the REC switch knob of the REC SAFETY board assembly is damaged, cassette loading is impossible.)

<NOTE4>

When plugging the connector in, check that the flat wire is inserted properly and fully.

<NOTE5>

- When removing the Main deck assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Main deck assembly.
- When reattaching the Main deck assembly to the Main board assembly, make sure to set the spacers into the retaining slots respectively.

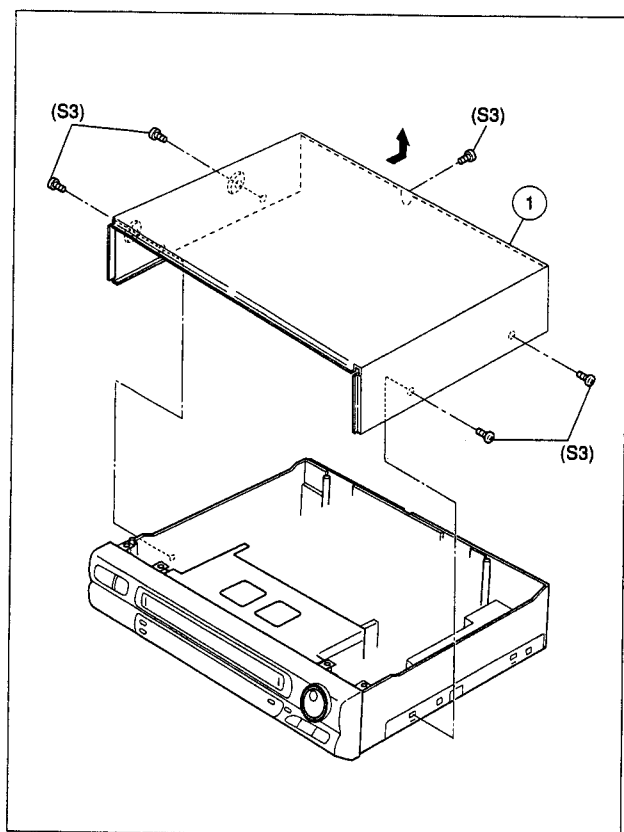


Fig. D1

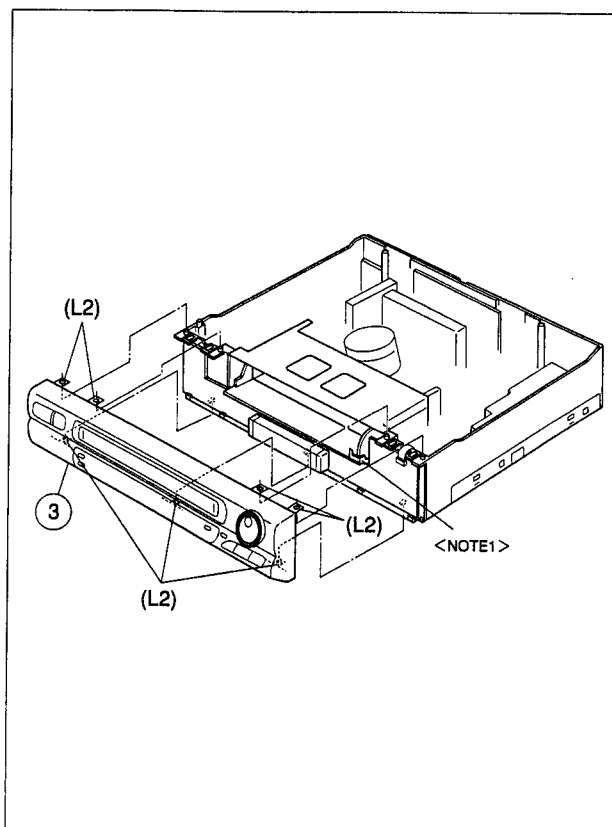


Fig. D3

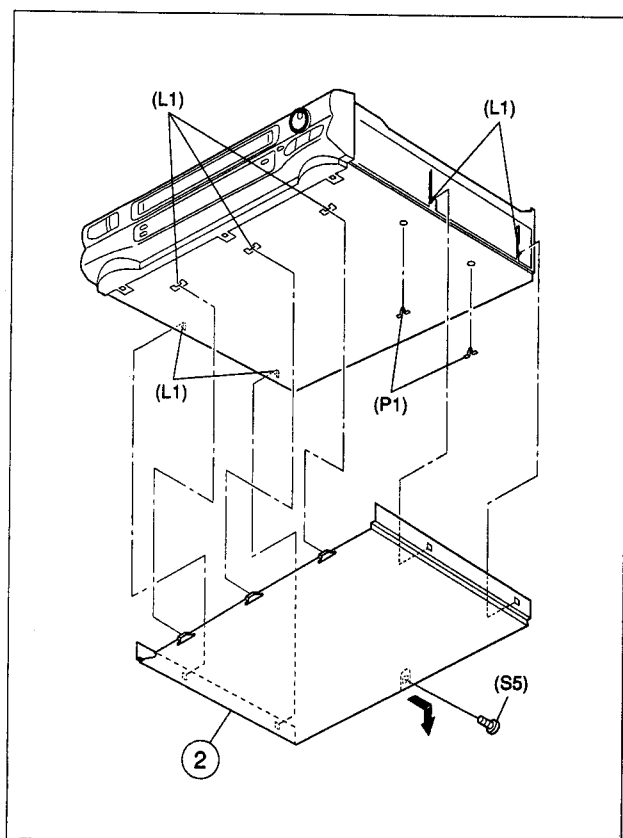


Fig. D2

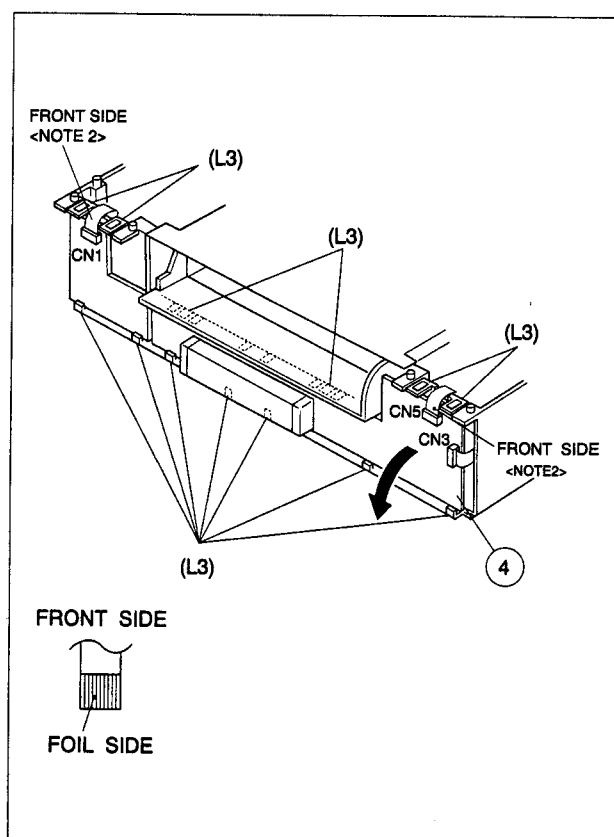


Fig. D4

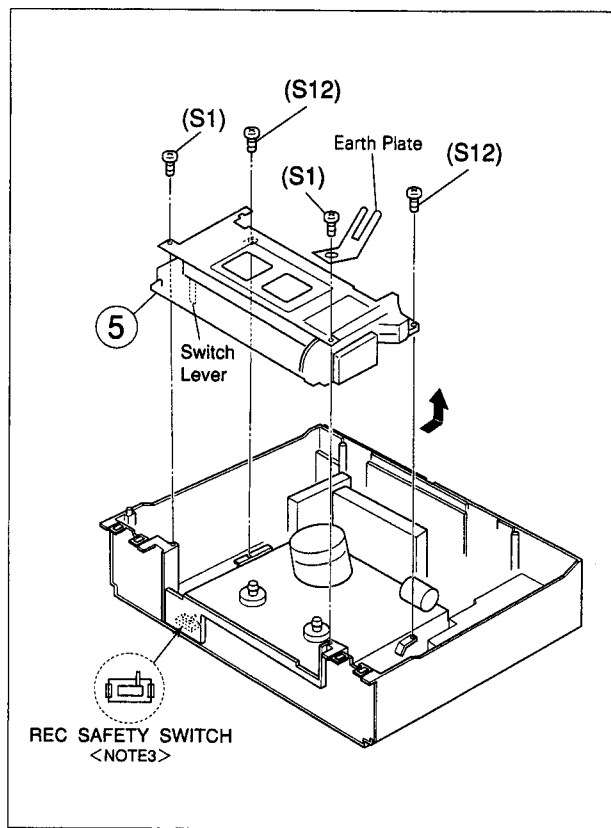


Fig. D5

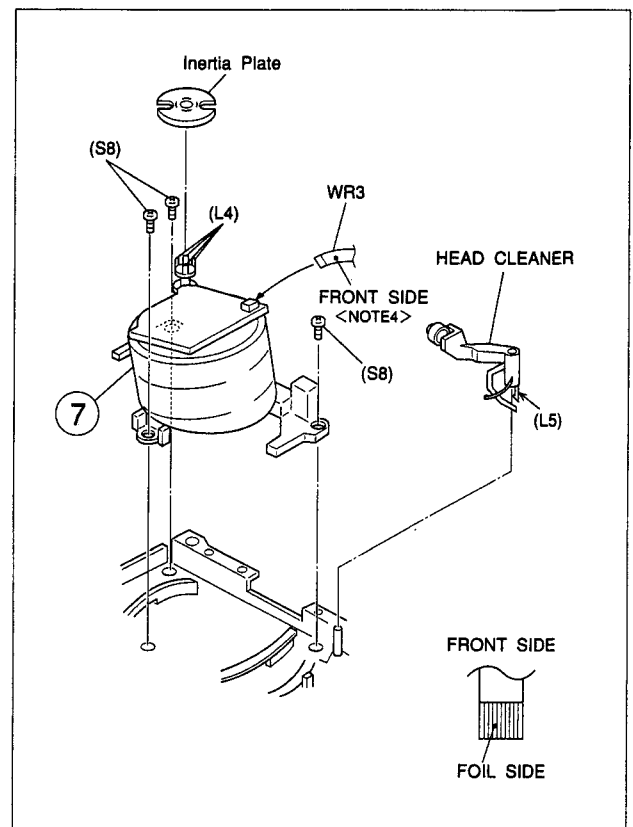


Fig. D7

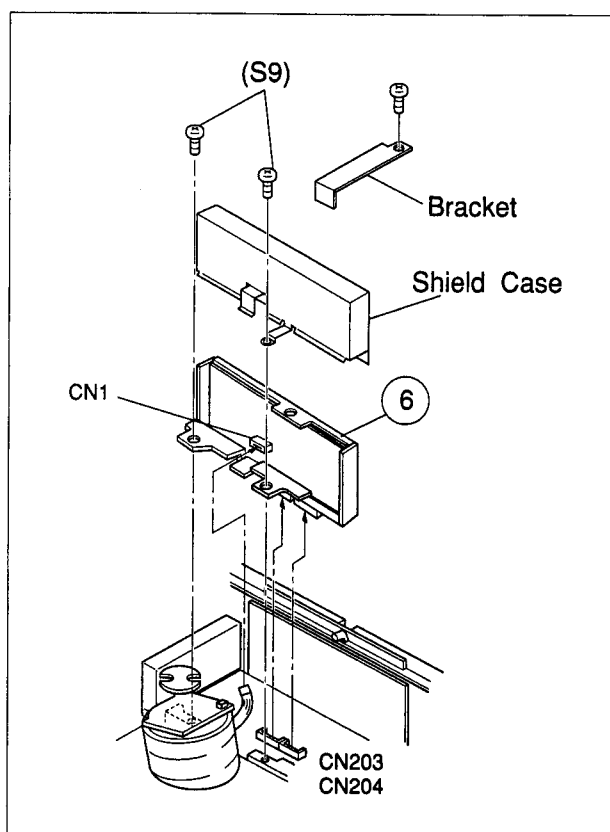


Fig. D6

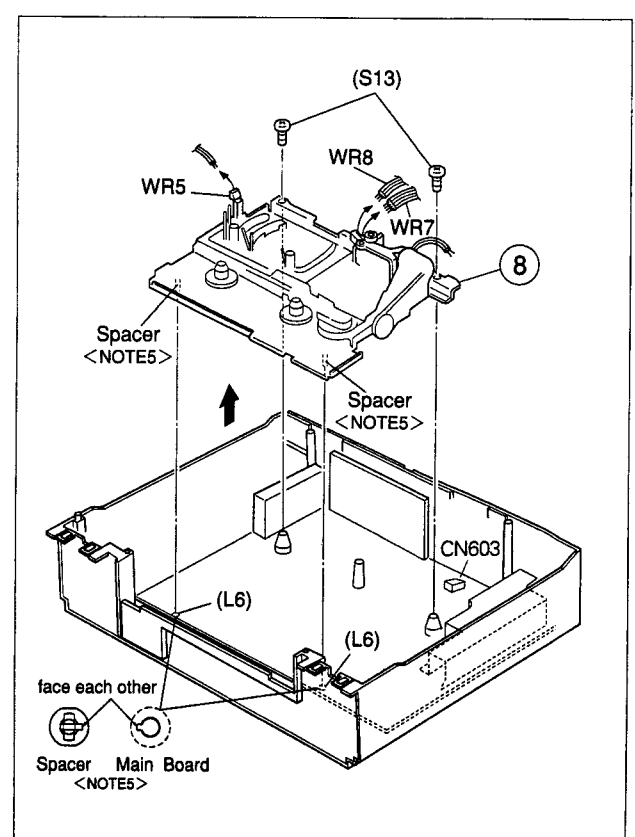


Fig. D8

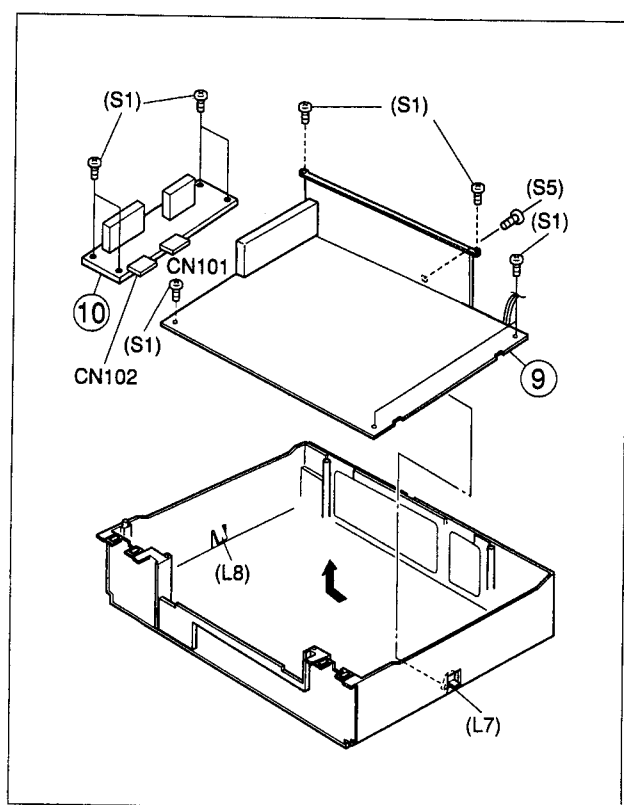


Fig. D9

1.2 CASSETTE HOUSING INSTALLATION

NOTE: Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.

1. Check that the hole of the control cam are aligned to the deck hole. If necessary, turn the mode motor belt by hand to adjust the position.

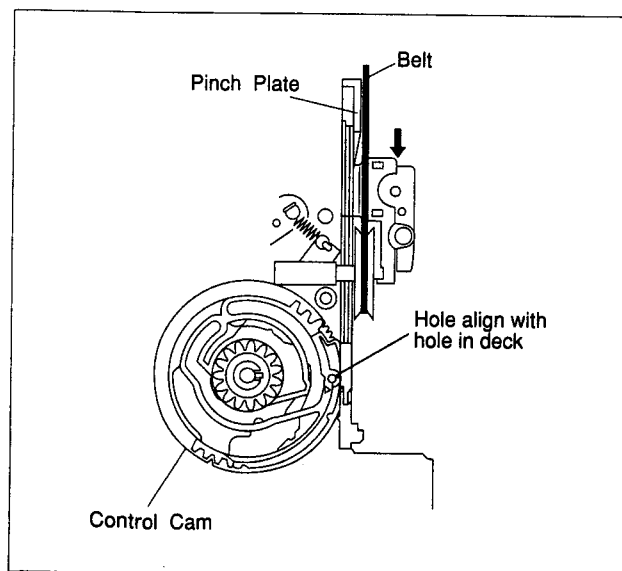


Fig. 1-2-1

1.3 SERVICE POSITION

1.3.1 How to take out the Mechanism and Main board assemblies.

- (1) Remove the Top cover, Front panel assembly, CN1 of the SW/JACK board assembly and CN3/CN5 of the DISPLAY board assembly.
- (2) Take out 12 screws (S1), 2 screws (S13) and 1 screw (S5) as shown in Fig. 1-3-1.

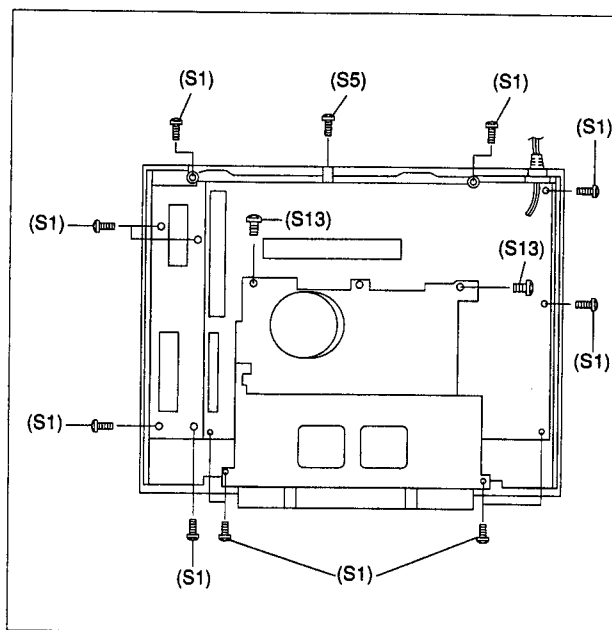


Fig. 1-3-1

- (3) Disengage 2 claws (a) from the chassis.
- (4) Remove the Mechanism assembly (including Cassette housing) and Main board assembly out of the chassis as shown in Fig. 1-3-2.

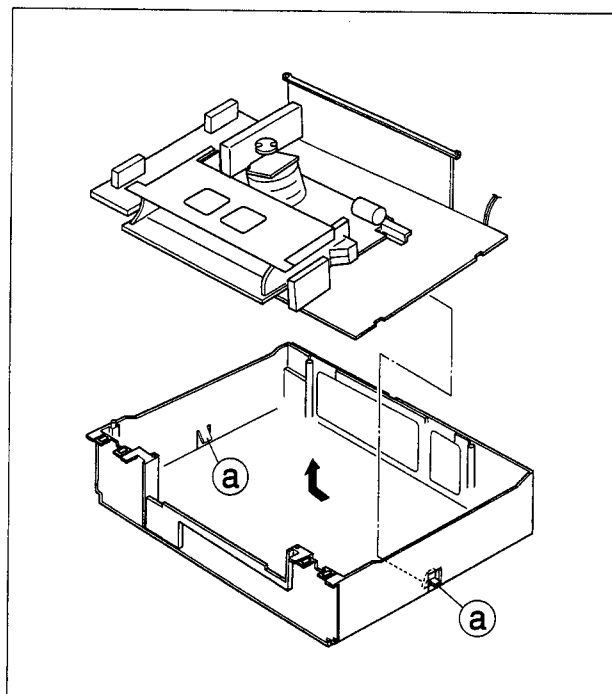


Fig. 1-3-2

- (5) Turn over the Mechanism assembly and Main board assembly then connect CN5 and CN3 of the DISPLAY board assembly.
- (6) Carry out checks & repairs as necessary as shown in Fig.1-3-3.

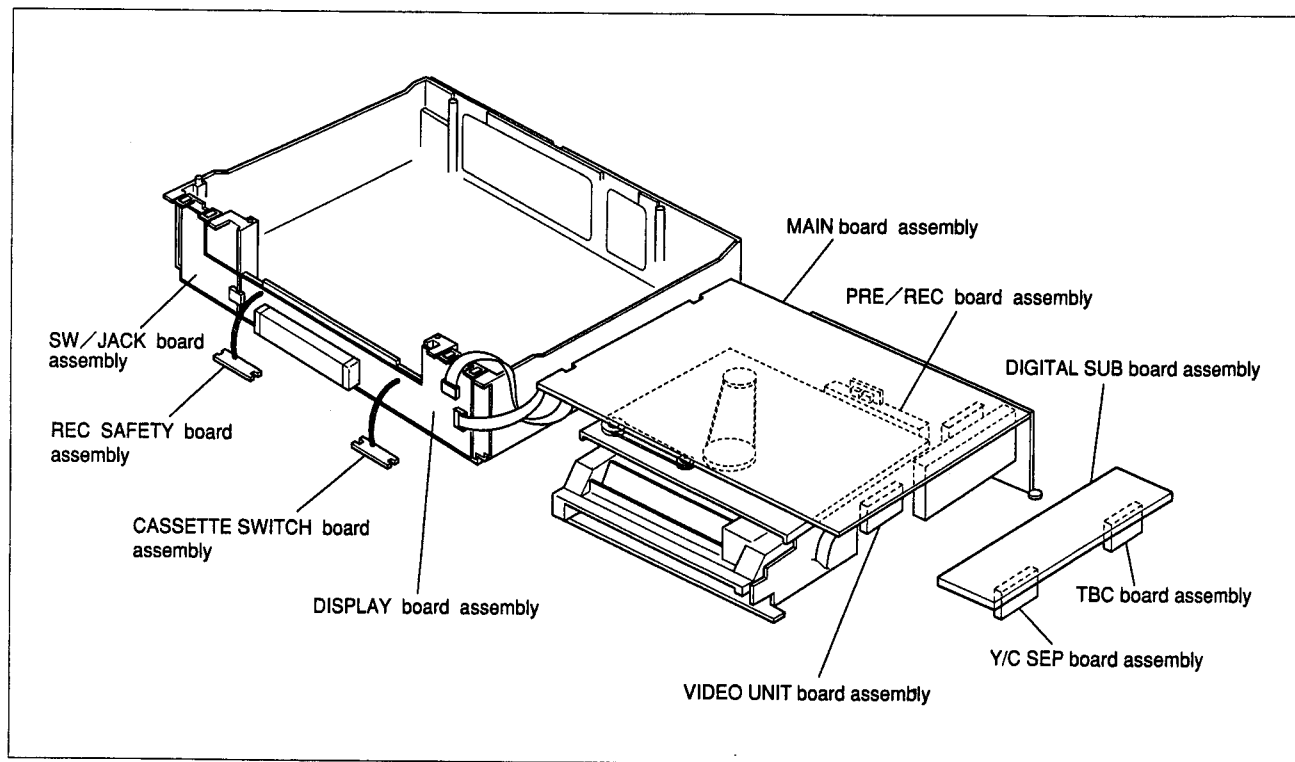


Fig. 1-3-3

1.3.2 Cautions on cassette loading when mechanism is in service position

The REC SAFETY board assembly of this set serves both for detecting the safety tab (erasure prevention tab) of a cassette and detecting a cassette loaded. Therefore, cassette loading in the condition that the mechanism is disassembled from the set needs manual operation of the switches of the REC SAFETY board assembly and the CASSETTE SWITCH board assembly.

1.3.3 Cassette loading and ejecting procedures when mechanism is in service position

- (1) Insert a cassette tape halfway into the cassette housing assembly.
- (2) Press the switch of the REC SAFETY board assembly to turn on.
- (3) When the cassette loading begins and the cassette goes down to the bottom, immediately press the switch of the REC SAFETY board assembly to turn off and hold the status that the switch (S36) of the CASSETTE SWITCH board assembly is turned on. (Fix the switch with adhesive tape or put a screwdriver, etc. on it to leave the switch in the ON status.)

- (4) In this status, desired operations (recording, playback, fast forward, rewind, etc.) can be performed.

Note: When the mechanism is in the service position, the safety tab of cassette tape is not detected and recording on cassette tapes without safety tab is possible. Therefore, carefully choose a cassette tape for operation in this mode so as to avoid using cassette tapes of important recording.

- (5) For ejecting the cassette in this status, do it in the reverse order of cassette loading mentioned above.

Note: If the manual operation REC SAFETY switch timing is incorrect, the cassette may be completely or partially ejected, and the cassette is often ejected incompletely. In such a case, it is possible to take out the cassette by hand.

If it is desired to load a cassette again after the cassette is ejected in the above procedure, make sure to set the tray of the cassette housing assembly in the frontmost position prior to loading the cassette once again.

1.3.4 Opening on the chassis.

The chassis assembly has openings for easy access to the checkpoints and connector pins as shown in Fig.1-3-4.

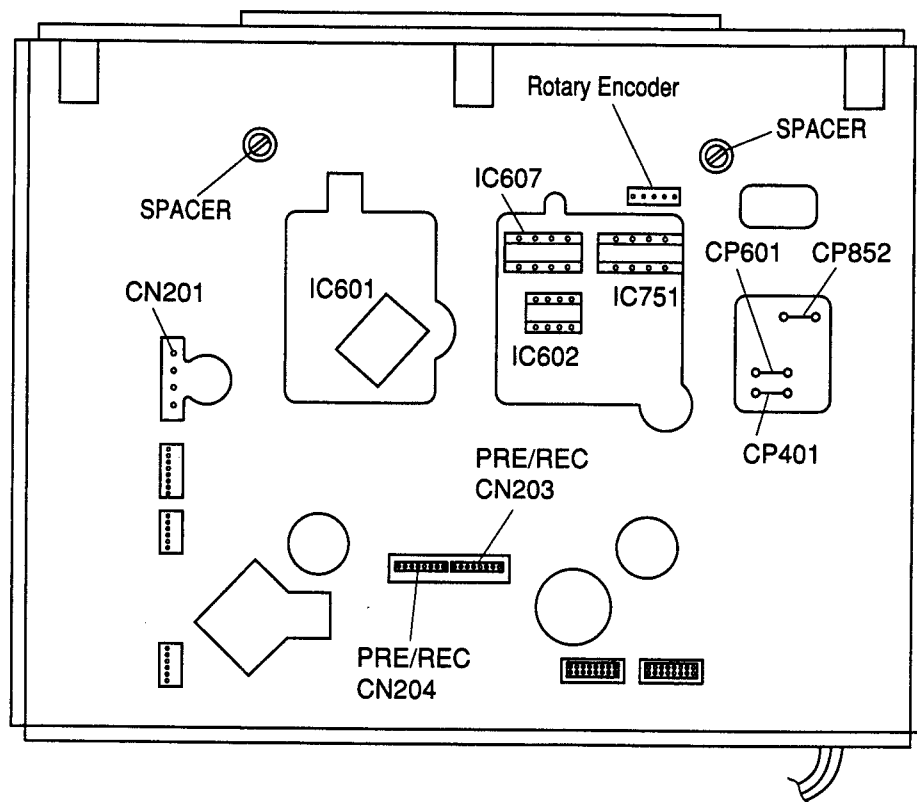


Fig. 1-3-4

1.4 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.4.1 How to set the "MECHANISM SERVICE MODE"

- (1) Disconnect AC power.
- (2) Remove the Top cover, Front panel assembly and cassette housing assembly. (See Page 1-2, 1-3)

- (3) Connect TP1 (TEST) and TP2 (GND) or B103 (GND) on the DISPLAY board assembly with a jump wire.
- (4) Supply AC power.
- (5) Press the POWER button.
- (6) Select the desired operation modes with the operation buttons or remote controller.

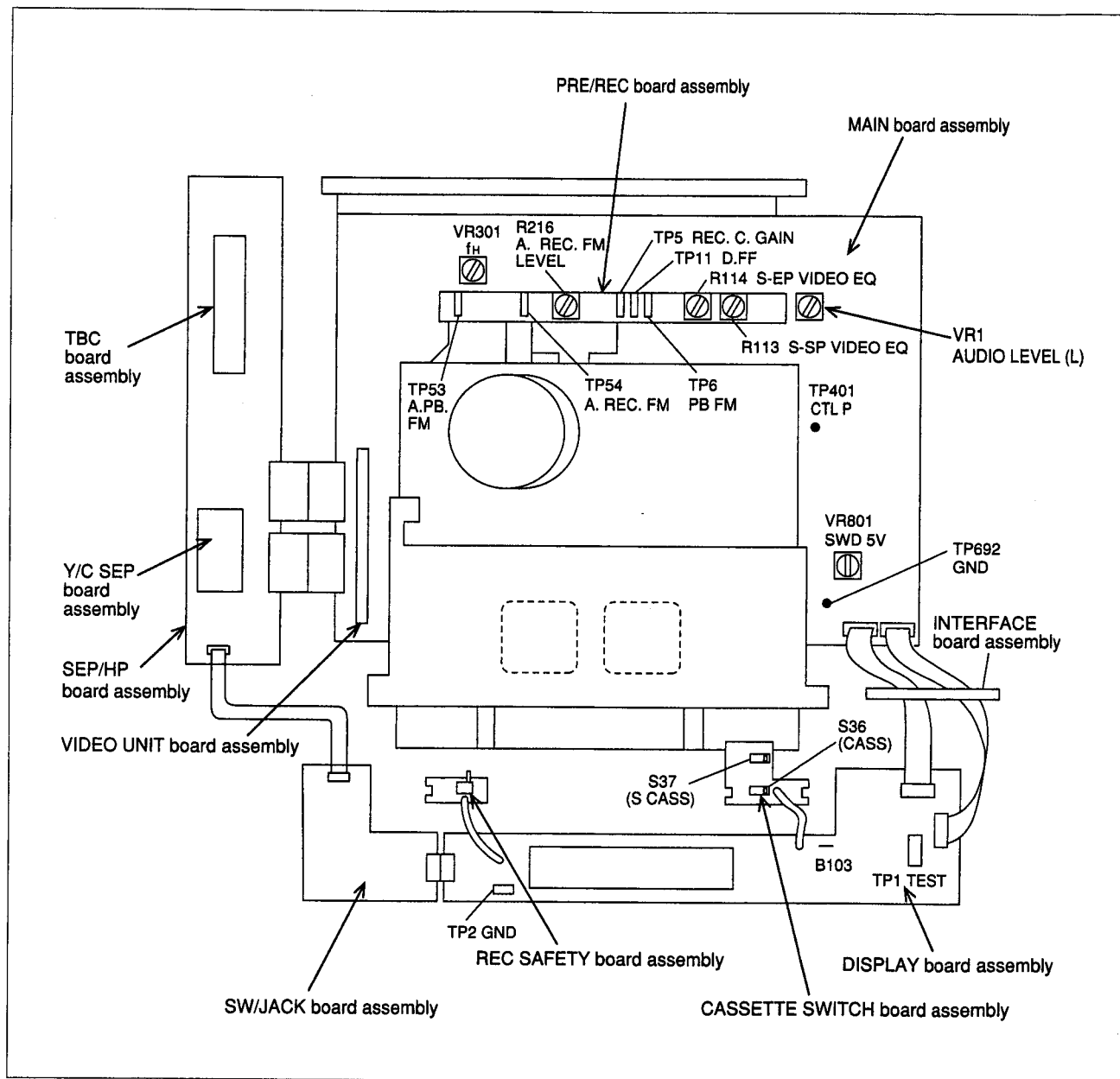


Fig. 1-4-1

1.5 SERVICE MODE

The SR-S388 is provided the Service Mode for servicing.

1.5.1 Outline of service mode

The service mode is outlined in the following.

- (1) Function to access the Service Menu Switch and to set those switches.
- (2) Function to show hour meter and accumulated operation times.
- (3) Function to indicate version of ROM.
- (4) Function to show and to reset emergency records.
- (5) Function to diagnose FDP.
- (6) Function to set position of on-screen display.
- (7) EVR adjustment.
- (8) Slow tracking preset adjustment.
- (9) Switching point adjustment.
- (10) LP tracking adjustment.

1.5.2 How to operate service mode

1. Set the REMOTE switch on the front panel to "LOCAL" position.
2. Press the **STOP, PAUSE** and **MENU** buttons together at the same time.
3. The VTR enters the service mode with "SERVICE MENU" appearing on the on-screen display or "SEL:20" appearing on the FDP.

SERVICE MENU

(FDP)

→ MEMORY SW (SEL:20)

HOUR METER (SEL:21)

ROM VERSION (SEL:22)

ADJUST MODE (SEL:23)

PRESS (SELECT, SET)

PRESS (MENU) TO END

MEMORY SW : For accessing and setting the service menu switch

HOUR METER : For showing hour meter and accumulated operation times

ROM VERSION : For showing version of the syscon and I/F

ADJUST MODE : • For showing and resetting emergency records
• For self-diagnosing FDP
• For setting position of on-screen display
• For activating EVR adjustment mode
• For activating slow tracking adjustment mode
• For activating switching point adjustment mode

→ : Shown as selected item on the display when selected

Fig. 1-5-1 Display of service mode

4. Press the **SELECT** button to select a desired mode.
5. Press the **SET** button to enter the VTR into the selected mode.
6. Execute the selected mode according to the sections 1.5.3 through 1.5.11.
7. For clearing the service mode, press the **MENU** button.

1.5.3 Setting service menu switches

Besides menu switches explained in the instructions, the SR-S388 has extra menu switches for service purpose only. The following explains how to change setting of those switches.

1. Set to service mode. (Refer to 1.5.2.)
2. As the VTR enters the service mode, "SERVICE MENU" appears on the on-screen display or "SEL:20" appears on the FDP. (Refer to Fig. 1-5-1.)
3. Select "MEMORY SW (SEL:20)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
4. Press the **SET** button, and the service menu switch appears on the on-screen display.
5. Select a desired menu switch by pressing the **SELECT** button.
6. Press the **SET** button to change the setting of the switch.
7. For quitting the menu switch, press the **MENU** button.
8. For resetting the menu switch at shipment, press the EJECT and C.RESET buttons together.

No.	Item Name	Function	Setting	
			OSD	FDP
303	WARNING ENABLE	To enable warning	[ON]	[1]
		To disables warning	OFF	0
305	REPEAT REC.	To operate repeated recording	ON	1
		Not to operate repeated recording	[OFF]	[0]
306	LONG PAUSE DISABLE	Not to activate long pause mode	ON	1
		To activate long pause mode according to setting of Menu No. 307	[OFF]	[0]
307	LONG PAUSE TIME	To activate long pause mode 1 second later	0	0
		To activate long pause mode 10 seconds later	1	1
		To activate long pause mode 30 seconds later	2	2
		To activate long pause mode 1 minute later	3	3
		To activate long pause mode 2 minutes later	4	4
		To activate long pause mode 3 minutes later	5	5
		To activate long pause mode 4 minutes later	6	6
		To activate long pause mode 5 minutes later	[7]	[7]
345	REPEAT PLAY	To operate repeated playback	ON	1
		Not to operate repeated playback	[OFF]	[0]
350	SPECIAL MODEL	Menu switch No.510,LANGUAGE SELECT is available	[OPTION]:EC	1
		Menu switch No.510,LANGUAGE SELECT is not available	[STANDARD]:E/EK	0

Setting in square brackets [] indicates initial setting on shipment.

LONG PAUSE mode : Every time the period of time set by the menu item No. 307 elapses, the mode is shifted to the STOP mode from the PAUSE(STILL) mode.

Table 1-5-1 Table of service menu switches

1.5.4 How to display hour meter and accumulated operation times

1. Set to service mode. (Refer to 1.5.2.)
2. Select "HOUR METER (SEL:21)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and hour meter and number of operation times appear on the display.

HOUR METER

→ 908:OPERATE HOUR METER

xxxxxxh

909: DRUM HOUR METER

xxxxxxh

910: CAP HOUR METER

xxxxxxh

PRESS (MENU) TO END

OPERATE HOUR METER : Accumulated power-on hours
 DRUM HOUR METER : Accumulated drum running hours
 CAP HOUR METER : Accumulated capstan motor running hours
 → : Shown as selected item

HOUR METER

912:OPERATE ON TIMES

xxxxxx

913:LOADING TIMES

xxxxxx

914:EJECT TIMES

xxxxxx

PRESS (MENU) TO END

OPERATE ON TIMES : Accumulated turning-on times
 LOADING TIMES : Accumulated loading times
 EJECT TIMES : Accumulated ejecting times
 → : Shown as selected item

Indications on FDP

xxxxxx : oh	Accumulated power-on hours
xxxxxx : dh	Accumulated drum running hours
xxxxxx : Ch	Accumulated capstan motor running hours
xxxxxx : oP	Accumulated turning-on times
xxxxxx : Ld	Accumulated loading times
xxxxxx : EJ	Accumulated ejecting times

Fig. 1-5-2 Display of hour meter and accumulated operation times

1.5.5 How to display ROM version

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ROM VERSION (SEL:22)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the ROM version is shown on the display.
 "xx" and "yy" appearing in Fig. 1-5-3 show the version (program number).

No.	ROM VERSION	
		(FDP)
900:I/F ROM Ver.		
	01xx	(IF: xx)
901:SYSCON ROM Ver.		
	10yy	(SYS: yy)

PRESS (MENU) TO END

"xx" and "yy" show the ROM version.

I/F ROM Ver. IC1 on INTERFACE board,
 HD6473837F-1xx

SYSCON ROM Ver. IC601 on MAIN board,
 HD6473927F-1yy

Fig. 1-5-3 Display of ROM version

4. Press the **SELECT** button, and the other ROM version appears on the FDP.
5. Press the **MENU** button to quit indication of ROM version menu.

4. For quitting the menu, press the **MENU** button.

1.5.6 How to display and reset and resetting emergency records

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display.

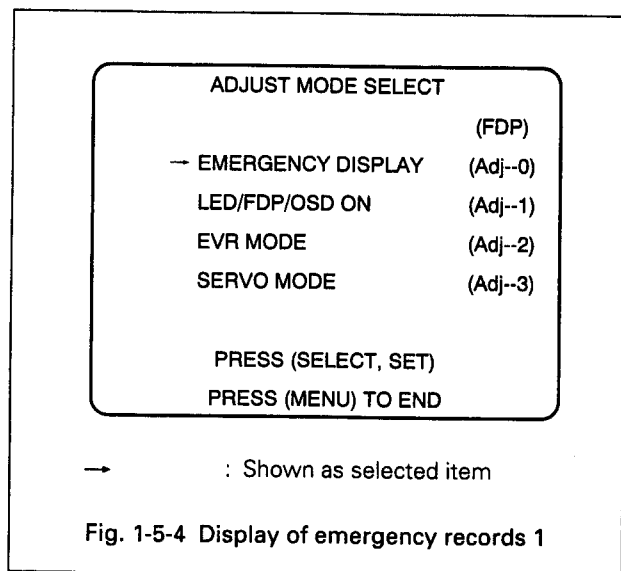


Fig. 1-5-4 Display of emergency records 1

4. Select "EMERGENCY DISPLAY (Adj-0)" by pressing the **SELECT** button.
5. Press the **SET** button, and the last and the second last emergency records are shown on the display at a time. For detail of emergency record, refer to Table 1-5-2.

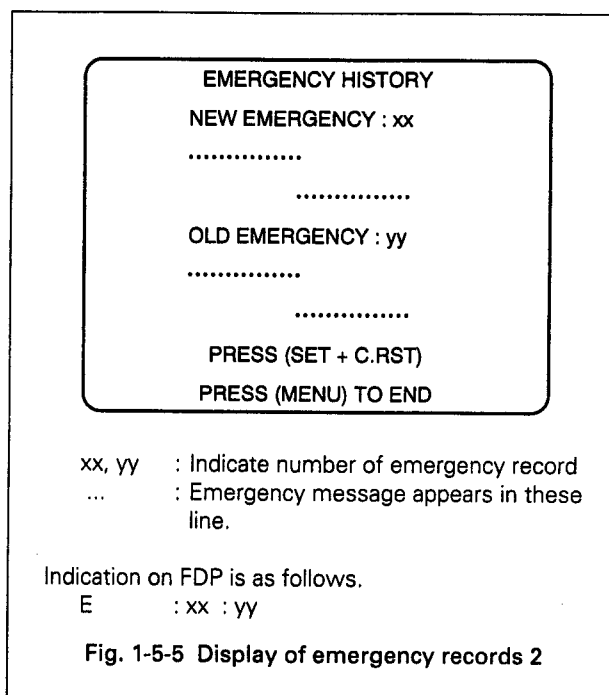


Fig. 1-5-5 Display of emergency records 2

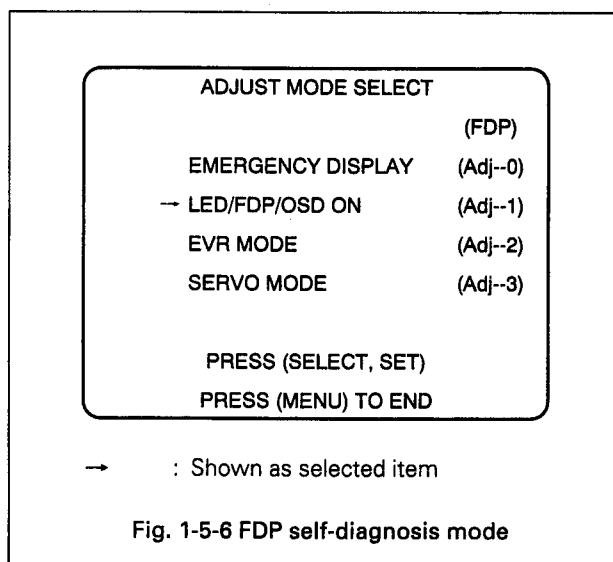
6. For resetting emergency records, take cassette tape out of the VTR first and press the **SET** and **C. RESET** buttons together as the display is showing emergency record.
7. Press the **MENU** button to quit showing and resetting emergency records.

Emergency No.	Symptom	Monitoring point	Monitoring mode	Following mode
01	Although loading motor runs for 8 seconds or more, the mode is not shifted to the following.	IC601, pins 14, 15, 16	In Loading	Power OFF
02	Although loading motor runs for 8 seconds or more, the mode is not shifted to the following.	IC601, pins 14, 15, 16	In Unloading	Power OFF
03	TU REEL FG is not input for more than 4 seconds.	IC601 pin 22	In REC/PLAY/FF/REW/SEARCH FF or REW	STOP, then Power OFF
04	DRUM FF is not input for more than 3 seconds.	IC601 pin 71	In REC/PLAY/SEARCH FF or REW	STOP
06	CAPSTAN FG is not input for more than 1 second.	IC601 pin 69	In REC/PLAY/FF/REW/SEARCH FF or REW	STOP, then Power OFF
07	Power failure by shortcircuit in power supply.	IC601 pin 74 When voltage is lower than 1.7 V approx.	Whenever set is turned on.	Power OFF

Table 1-5-2 Detail of emergency records

1.5.7 Self-diagnosing FDP

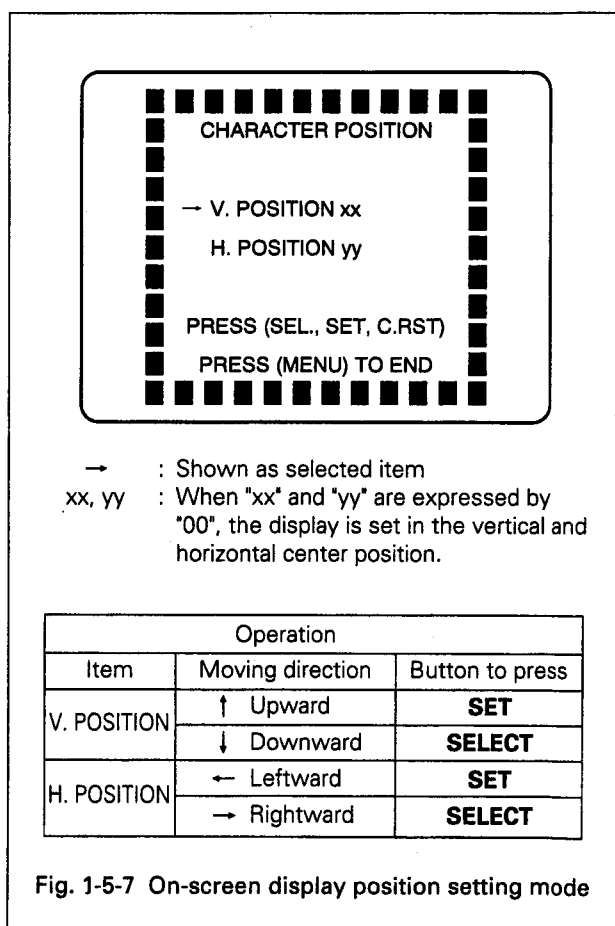
1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display.



4. Select "LED/FDP/OSD ON (Adj-1)" by pressing the **SELECT** button.
5. Press the **SET** button, and the VTR enters the FDP self-diagnosis mode with all FDP's being turned on.
6. If there is any FDP which is still off, it is thinkable that the FDP is aulty or there is a failure in the FDP driver circuit.
7. Press the **MENU** button to quit the FDP self-diagnosis mode.

1.5.8 How to set position of on-screen display

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-6.)
4. Select "LED/FDP/OSD ON (Adj-1)" by pressing the **SELECT** button. (Refer to Fig. 1-5-6.)
5. Press the **SET** button, and the VTR enters the on-screen display position setting mode. (This mode also serves as the FDP self-diagnosis mode with all FDP's being turned on.)



6. Select "V. POSITION" or "H. POSITION" by pressing the **C. RESET** button.
7. Press the **SELECT** button to move the on-screen display (the whole display shown in Fig. 1-5-7) downwards or rightwards.
8. Press the **SET** button to move the on-screen display (the whole display shown in Fig. 1-5-7) upwards or leftwards.
9. Press the **MENU** button to quit the on-screen display position setting mode.

1.5.9 How to access EVR adjustment mode

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-4.)
4. Select "EVR MODE (Adj-2)" by pressing the **SELECT** button.
5. Press the **SET** button for more than 2 seconds, and the VTR enters the EVR adjustment mode.

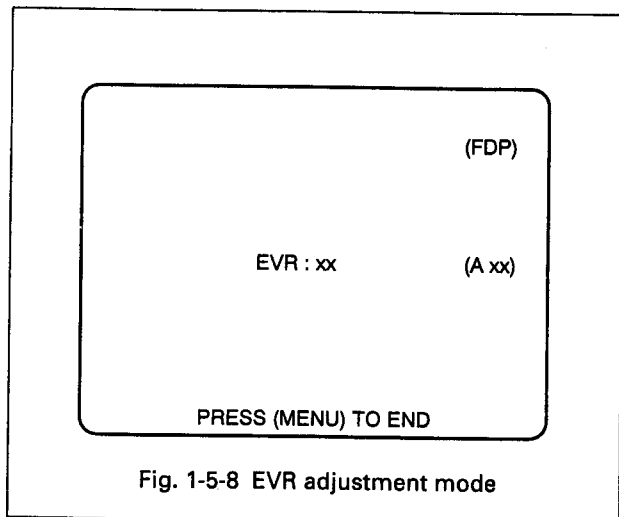


Fig. 1-5-8 EVR adjustment mode

6. Press the **C. RESET** button to change "EVR No." In the display, "xx" expresses EVR No.
7. Change setting data of the selected EVR with the **SET** (to increase) and **SELECT** (to decrease) buttons.
8. Press the **MENU** button to quit the EVR adjustment mode.

EVR No.	Adjusting item	Reference section
02	REC color level	3.4.6
11	Y level	3.4.1/3.4.5
12	Carrier	3.4.4
13	Deviation	3.4.4
14	White/Dark clip	3.4.2
15	Sub-emphasis	3.4.3
16	Pilot burst level	3.4.8

Table 1-5-3 Table of EVR adjustment mode

1.5.10 How to adjust slow tracking preset

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-4.)
4. Select "SERVO MODE (Adj-3)" with the **SELECT** button. (Refer to Fig. 1-5-4)
5. Press the **SET** button to enter the VTR into the SERVO adjustment mode.

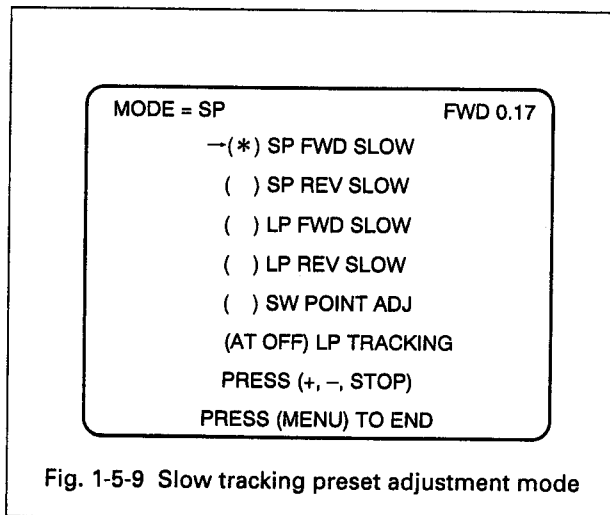


Fig. 1-5-9 Slow tracking preset adjustment mode

6. When the VTR enters a slow playback mode while playing back a self-recorded tape, "→" mark appears at the beginning of the item concerned to point it out on the display.
7. Adjust the slow tracking preset of each item with the **TRACKING +** and **TRACKING -** buttons.
8. Press the **STOP** button to record the adjustment value in the memory with indication by asterisk at the beginning of the corrected item.

Note: If the playback mode is changed to another mode before the **STOP** button is pressed, the adjustment value is not recorded in the memory.

9. Press the **MENU** button to quit the slow tracking preset adjustment mode.

1.5.11 How to adjust switching point

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-4.)
4. Select "SERVO MODE (Adj-3)" with the **SELECT** button. (Refer to Fig. 1-5-4.)
5. Press the **SET** button to enter the VTR into the SERVO adjustment mode. (Refer to Fig. 1-5-9.)
6. When the MHPE alignment tape is played back, "—" mark appears at the beginning of "SW POINT ADJ" and the VTR enters the switching point adjustment mode at the same time.

Note: *If a cassette tape that has no safety tab (erasure prevention tab) and something has been recorded on in the SP mode is played back, the VTR enters the adjustment mode. Carefully check the cassette tape before playing it back.*

7. Press the **TRACKING +** and **TRACKING -** buttons together to start automatic adjustment.
8. With finish of adjustment, operation automatically stops and an asterisk appears at the beginning of "SW POINT ADJ" to inform finish of the adjustment.
9. Press the **MENU** button to quit the switching point adjustment mode.

1.5.12 How to check X-value

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-4.)
4. Select "SERVO MODE (Adj-3)" with the **SELECT** button. (Refer to Fig. 1-5-4.)
5. Press the **SET** button to enter the VTR into the SERVO adjustment mode. (Refer to Fig. 1-5-9.)
6. When the MHPE-L alignment tape is played back, "—" mark appears at the beginning of "LP TRACKING" and the VTR enters the switching point adjustment mode at the same time.

Notes: • X-value check mode is display "LP TRACKING" on the monitor screen.

• *If a cassette tape that has no safety tab (erasure prevention tab) and something has been recorded on in the LP mode is played back, the VTR enters the adjustment mode. Carefully check the cassette tape before playing it back.*

7. Press the **TRACKING +** (SET) and **TRACKING -** (SELECT) buttons together to "AT OFF" on monitor screen and then, press them one more time to "AT ON". The front panel display "AT" and X-value check mode is activated.
8. If the monitor screen change to "AT OFF" and the front panel undisplay "AT", the X-value is adjusted correctly. If the cassette tape is ejected, X-value have to be re-adjusted.
9. Press the **MENU** button to quit the X-value check mode.

NOTE

■ Editing accuracy ± 5 Frames.

SECTION 2 MECHANISM ADJUSTMENT

2.1 PREPARATION

2.1.1 Precautions

- (1) Disconnect AC power before soldering.
- (2) Avoid imparting stress to wires when disengaging connectors.
- (3) Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
- (4) Use care not to damage tabs, claws, etc during repairs.
- (5) Install the cassette housing assembly only when the mechanism is in the MECHANISM ASSEMBLING MODE position.
- (6) When installing the front panel assembly, be sure to engage the housing door with the door opener of the cassette housing assembly.

If this is omitted, the cassette door will not open at eject and the cassette can not be removed. (See SECTION 1.1.3 NOTE1)

2.1.2 Check without cassette housing assembly.

Mechanism operations can be observed easily by removing the cassette housing assembly. Use the MECHANISM SERVICE MODE (See SECTION 1.4)

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button, take out of the cassette tape according to the following procedure.

- (1) Disconnect AC power, then take out the Top cover and Front panel assembly.
- (2) Turn the loading motor on the Main deck assembly by hand in the unloading direction to where the pole base assembly (supply and take-up) is positioned below the cassette tape. At that time, pay careful attention to the tape not to get soiled with grease.
- (3) Take out 4 screws of the cassette housing assembly. (See SECTION 1.1.3)
- (4) Remove the cassette housing with slackened tape and guard panel of cassette.
- (5) Wind up the tape by turning the reel hub (either supply or take-up side for convenience) from the bottom of the cassette, and remove the cassette tape.

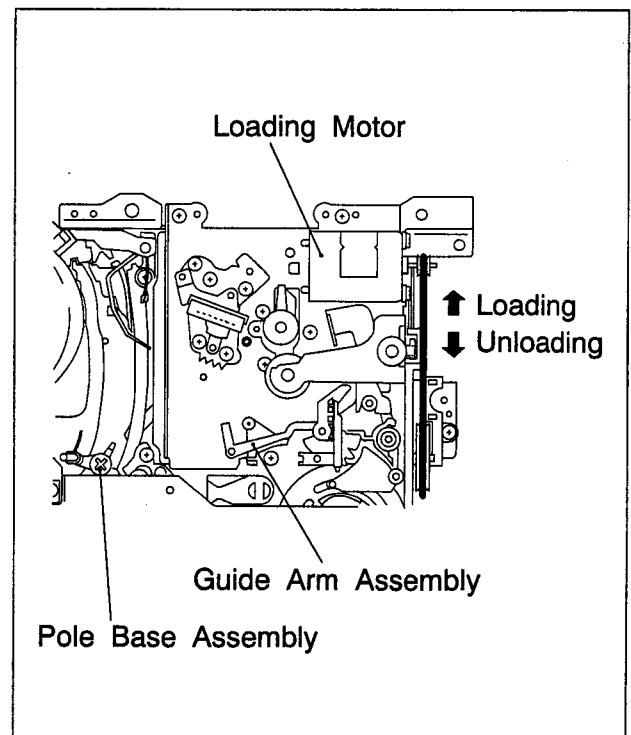


Fig. 2-1-1

2.1.4 Test Equipment

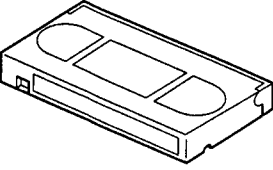
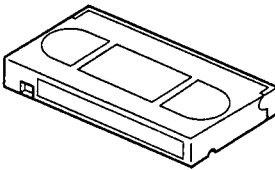
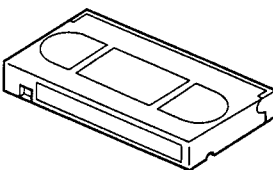
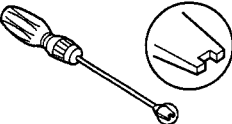
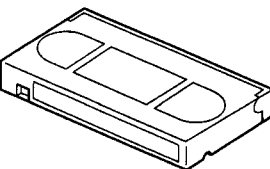
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L(Only CH-1 recording)	Alignment tape MBPE-X	A/C head positioning tool PTU94010
			
Roller driver PTU94002	Grease KYODO-SH-P	Cassette torque meter PUJ42881	
			

Table 2-1-1 Test equipment

2.2 MAIN MECHANISM PARTS

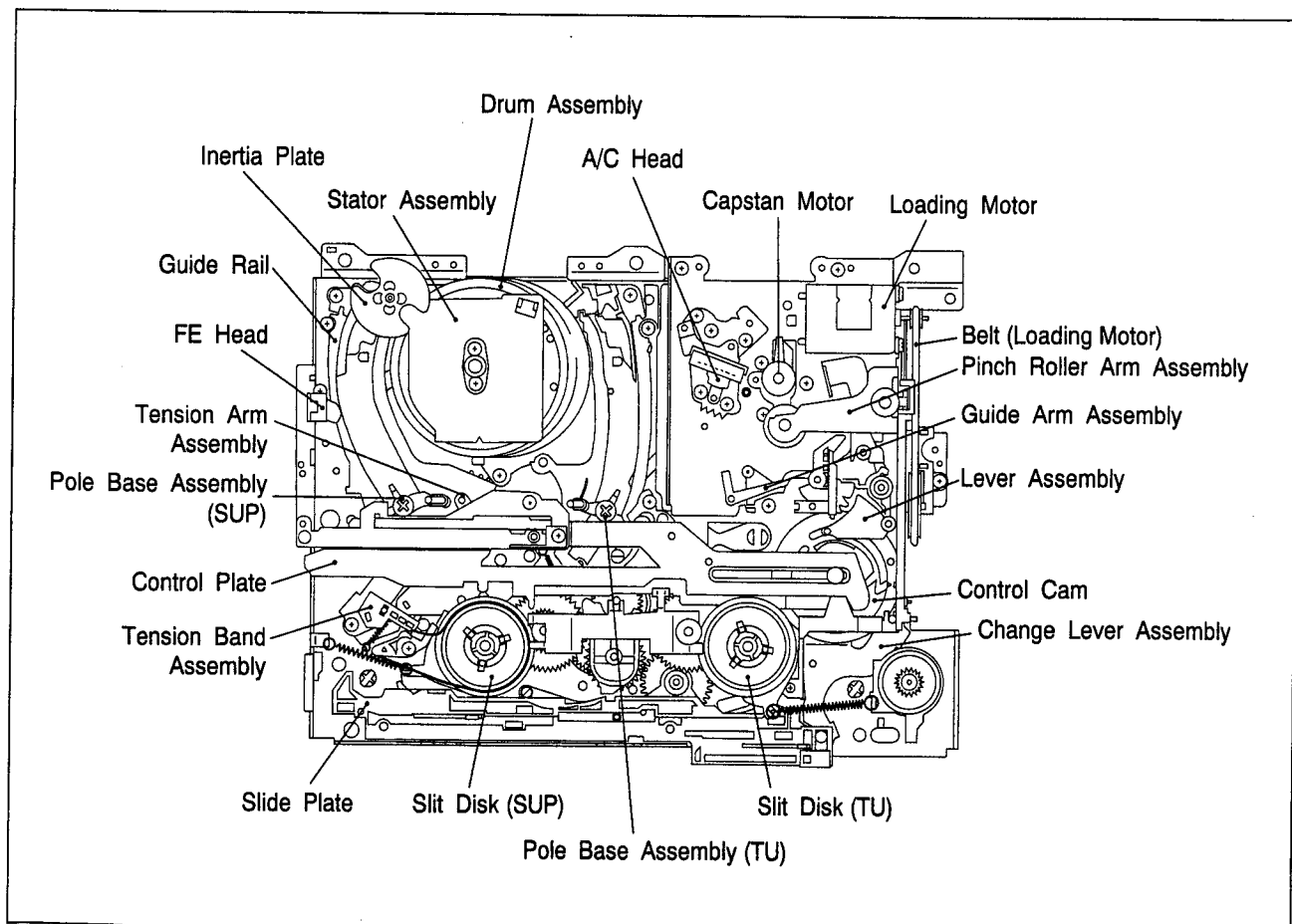


Fig. 2-2-1 Top view of main deck

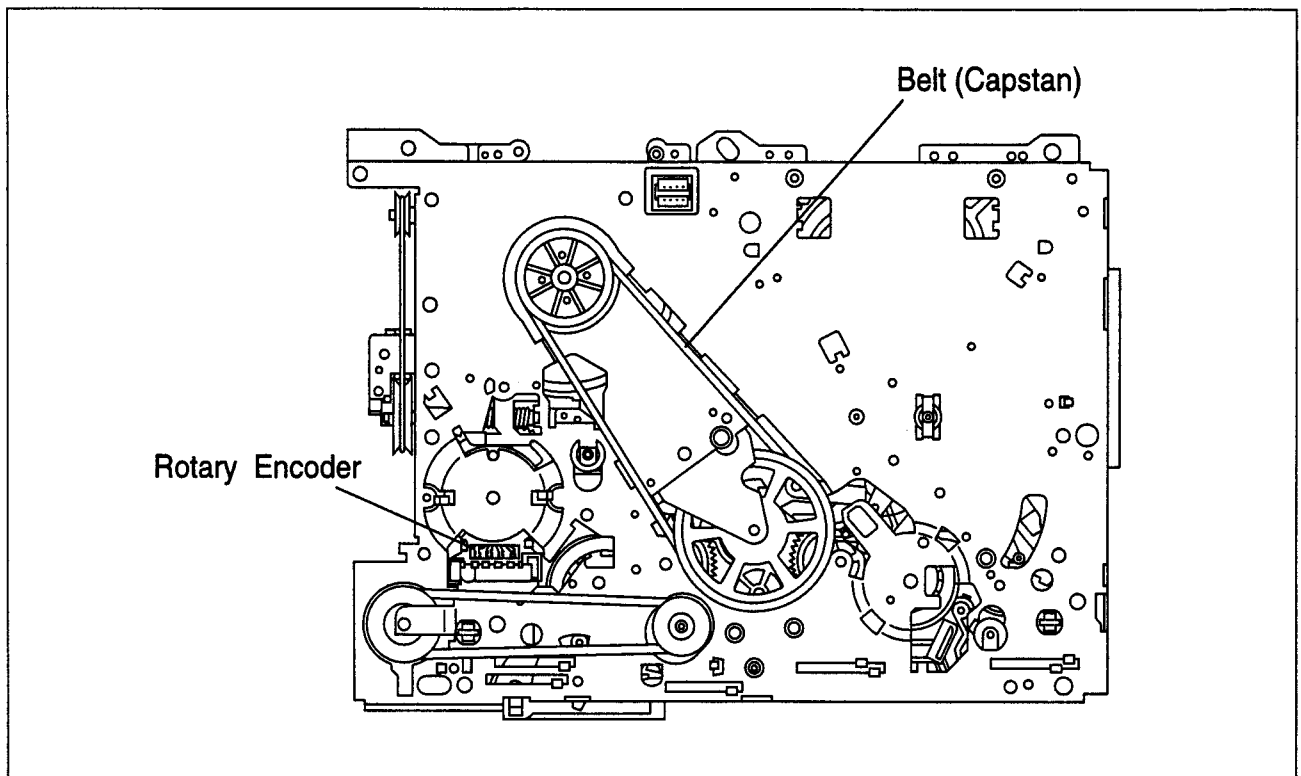


Fig. 2-2-2 Bottom view of main deck

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable, but usually not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brush can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a finemesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol. It is recommended to also clean the tape tension posts and capstan.

- To clean the video heads, press the moistened quality paper gently against the upper drum with fingertip and turn the drum counterclockwise by hand.
- Do not use a vertical stroke, as this may damage the heads.

2.2.2 Lubrication

Oil and grease do not normally require periodic replenishing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled). For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly. Before oiling, clean with alcohol. Apply one or two drops of oil. Avoid excess oil.

1. Table 2-2-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

Category	Part No.
Oil	COSMO-HV56
Grease	KYODO-SH-P

Table 2-2-1

2. Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

NOTE: *Stir grease that has been stored for an extended period.*

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

	Parts Name	Standard service period			
		500	1000	1500	2000
Tape transport system	Upper drum assembly	★	○	★	●
	A/C head	★	○	★	●
	Pinch roller arm assembly	★	○	★	●
	Full erase head assembly				
	Tension arm assembly				
	Drum assembly	★	★	★	●
	Capstan motor (Shaft)				
	Guide arm assembly				
Driving system	Capstan motor		○		●
	Capstan Belt		○		●
	Mode motor Belt		○		●
	Mode motor		○		●
	Slit disk (SP.)				●
	Slit disk (TU.)				●
	Clutch unit (SP., TU.)		○		●
	Worm gear assembly				●
	Control plate				●
	Slide plate				●
	Brakes		○		●
Other	Brush assembly		○		●
	Tension band assembly				●
	Rotary encoder		○		●
	Head cleaner		●		●

● : Replacement

★ : Cleaning

○ : Check and Replace if necessary

Table 2-3-1

NOTE : Check accumulated operating time by service mode (Drum hour meter).

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation. The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts and cassette housing assembly have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

- (1) Turn the loading motor belt by hand.
- (2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

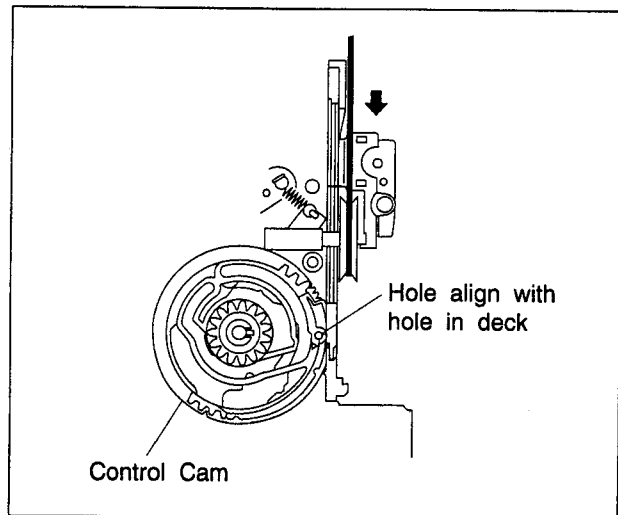


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm Assembly

- (1) Remove the slit washer.
- (2) Tilt up the pinch roller assembly in direction of arrow.

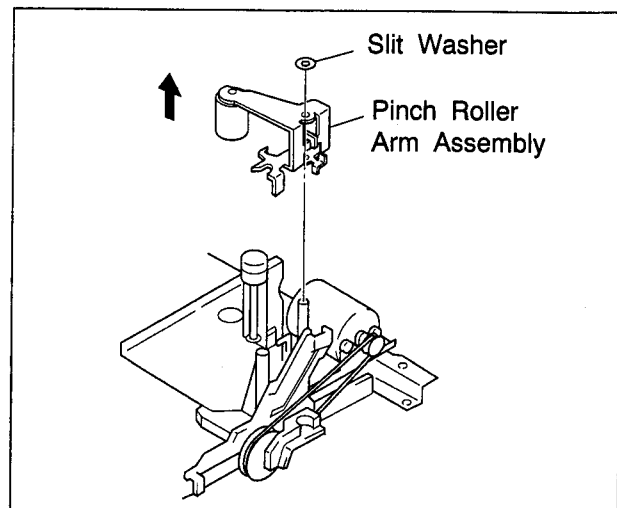


Fig.2-5-1

2.5.2 A/C Head

1. Removal

- (1) Take out 2 screws (S19).
- (2) Remove the A/C head with head base.

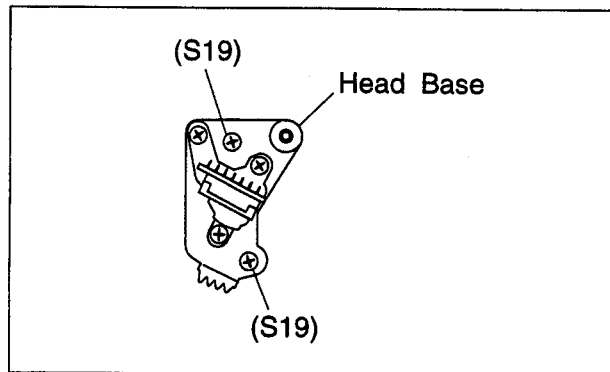


Fig.2-5-2

- (3) When replacing the A/C head only, remove 3 screws (S8), use care not to misplace the 4 springs.

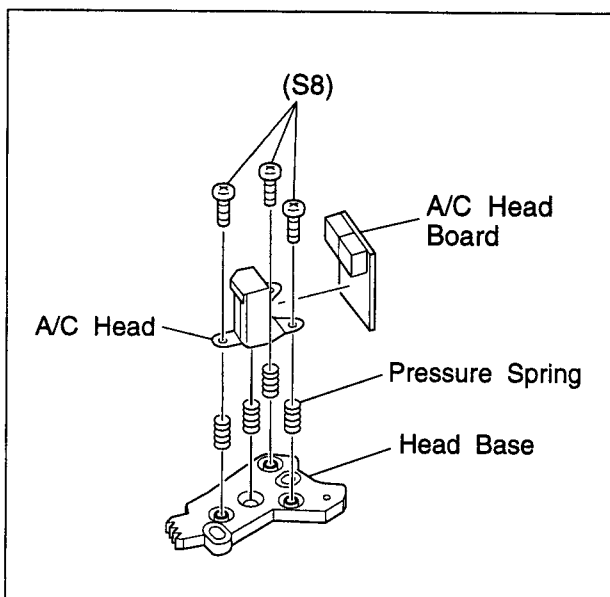


Fig.2-5-3

2. Installation

- (1) Temporarily set A/C head height as indicated in Fig. 2-5-4.
- (2) Clean the A/C head and perform the following adjustment.
 - Interchangeability adjustment (see 2.7.1 to 2.7.4)

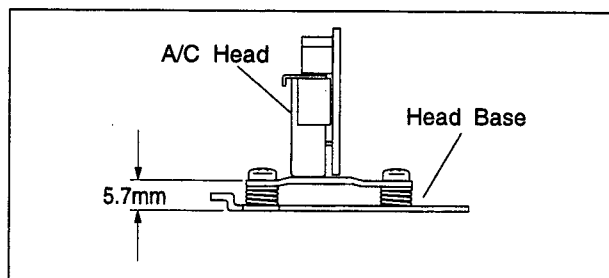


Fig.2-5-4

NOTES:

- It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.

2.5.3 Pinch Plate

1. Removal

- (1) Disengage 2 claws, then remove the pinch plate.

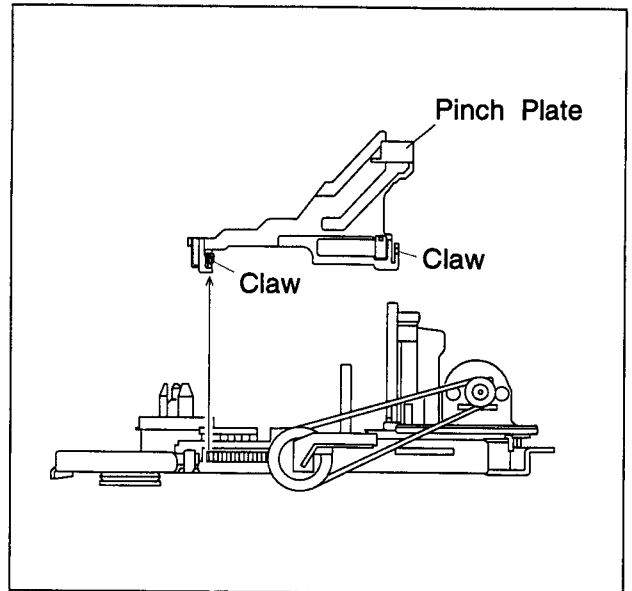


Fig.2-5-5

2. Installation

- (1) When installing pinch plate, align rack of pinch plate and triangle mark of control cam as indicated in Fig.2-5-6.

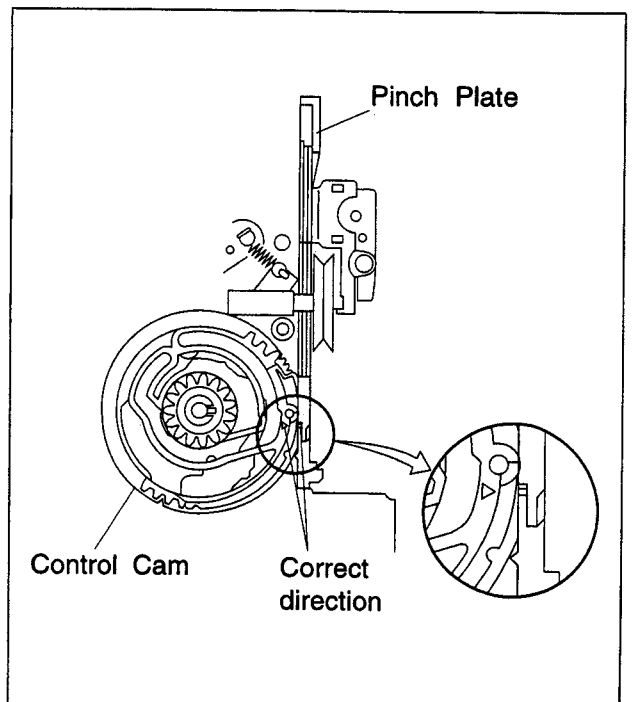


Fig. 2-5-6

2.5.4 Loading Motor

- (1) Disengage the belt between loading motor and worm gear.
- (2) Take out 2 screws (S14), 1 screw (S18) and the motor guide then remove the loading motor.

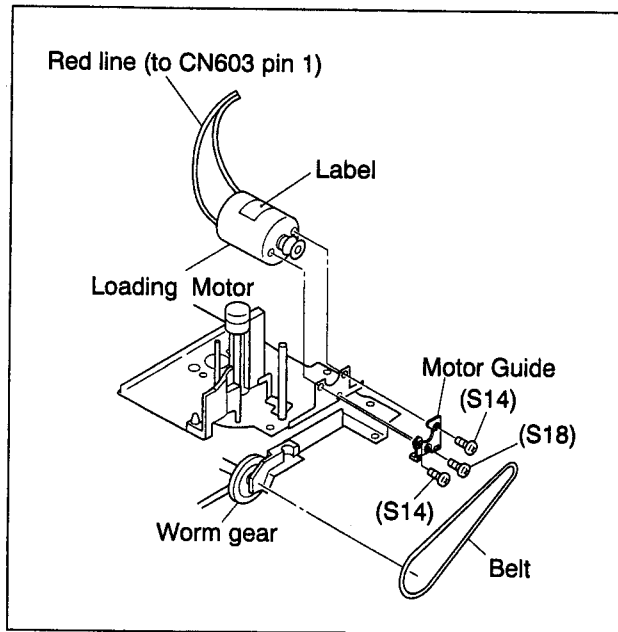


Fig.2-5-7

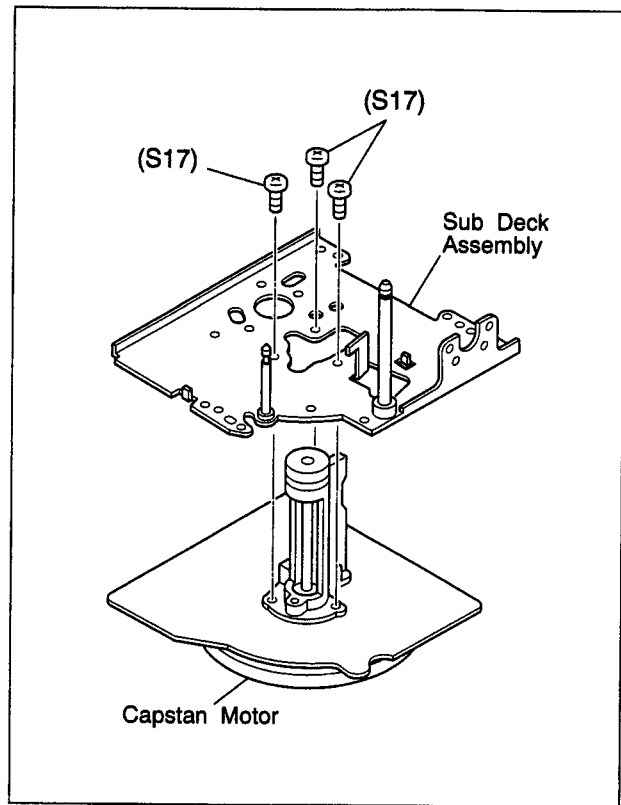


Fig.2-5-9

2.5.5 Lever Assembly, Sub Deck Assembly & Capstan Motor

- (1) Take out 1 slit washer, then remove the lever assembly.
- (2) Disengage the belt (capstan motor) from bottom of mechanism assembly first as indicated in Fig.2-5-10.
- (3) Take out 2 screws (S15), 1 screw (S18) and remove the sub deck assembly as indicated in Fig.2-5-8.
- (4) Take out 3 screws (S17) and remove the capstan motor from the sub deck assembly as indicated in Fig.2-5-9.

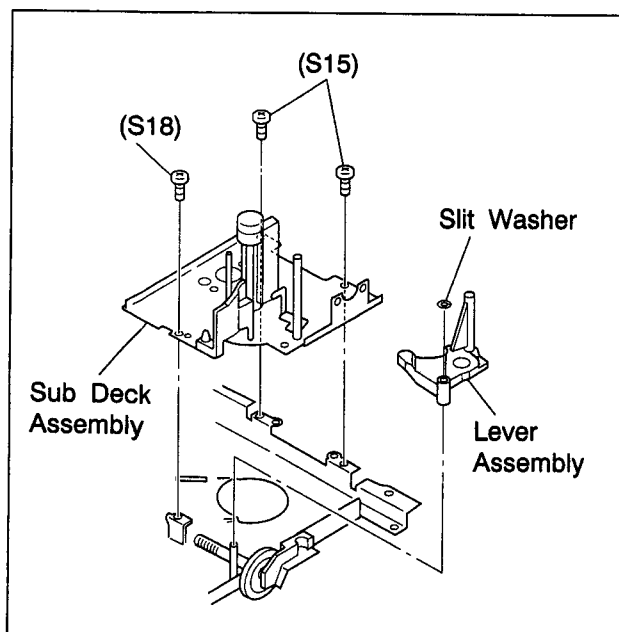


Fig.2-5-8

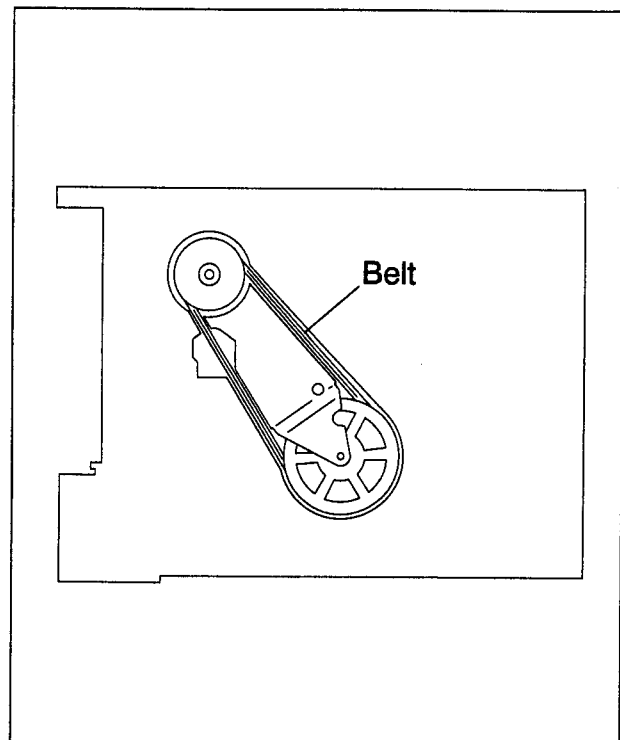


Fig.2-5-10

2.5.6 Control Bracket

- (1) Take out 1 screw (S16) and 1 screw (S20).
- (2) Remove the control bracket and the earth plate.

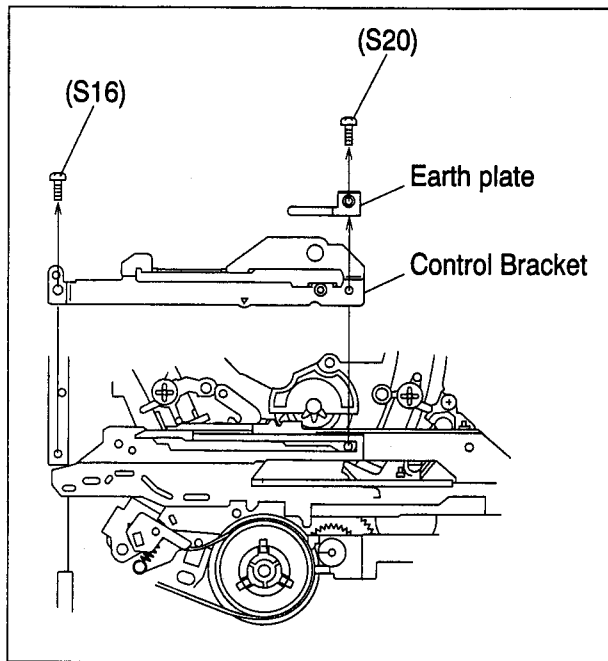


Fig.2-5-11

2.5.7 Reel Bracket, Slit disk (take-up) & control Bracket-2

- (1) Take out 2 slit washers.
- (2) Remove the reel bracket and slit disk (take-up).
- (3) Take out 1 screw (S16) and remove the control bracket-2.

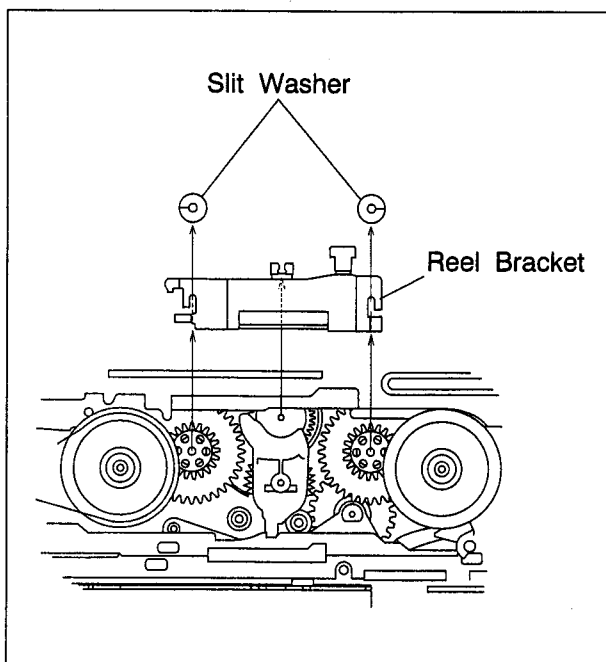


Fig.2-5-12

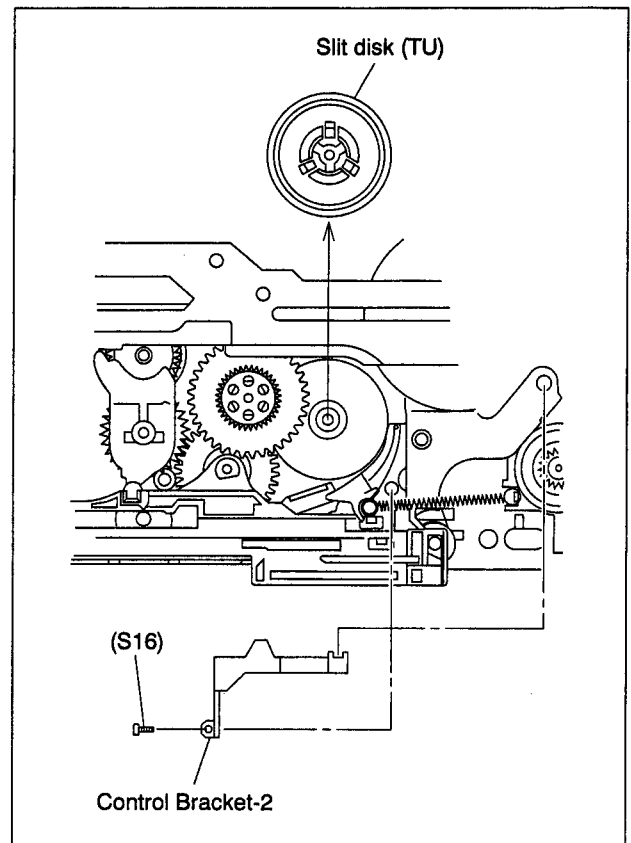


Fig.2-5-13

2.5.8 Control Plate

- (1) Take out 1 slit washer.
- (2) Disengage 2 claws and remove the control plate.

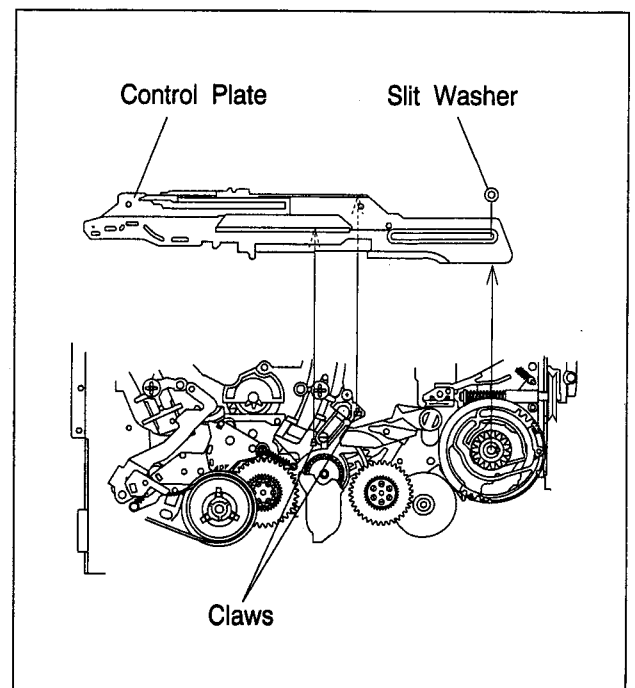


Fig.2-5-14

2.5.9 Sub Brake(take-up),Control Cam

- (1) Disengage 1 spring (a) and 1 claw then remove the sub brake (take-up).
- (2) Disengage 1 claw and remove the control cam.

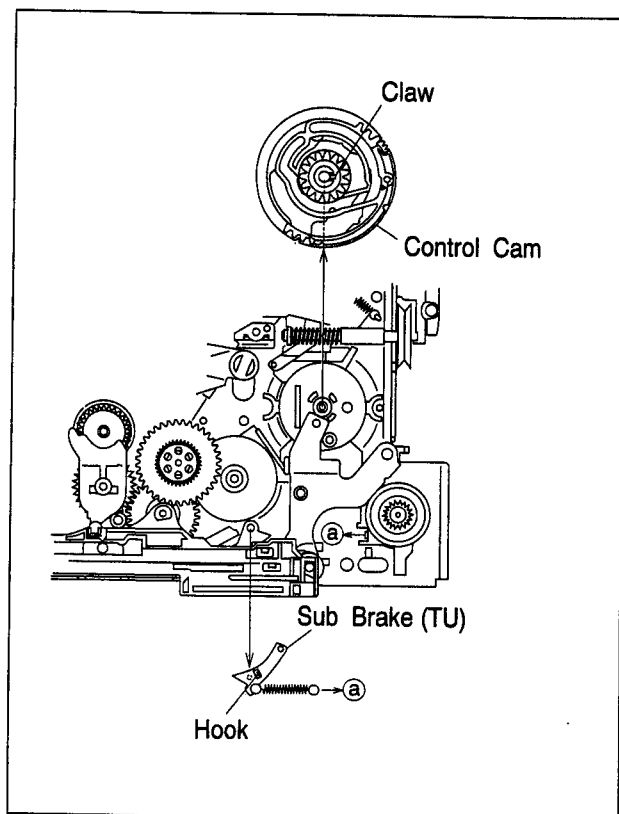


Fig.2-5-15

2.5.10 Slide Plate

- (1) Disengage 7 claws from bottom of the mechanism assembly and remove the slide plate.

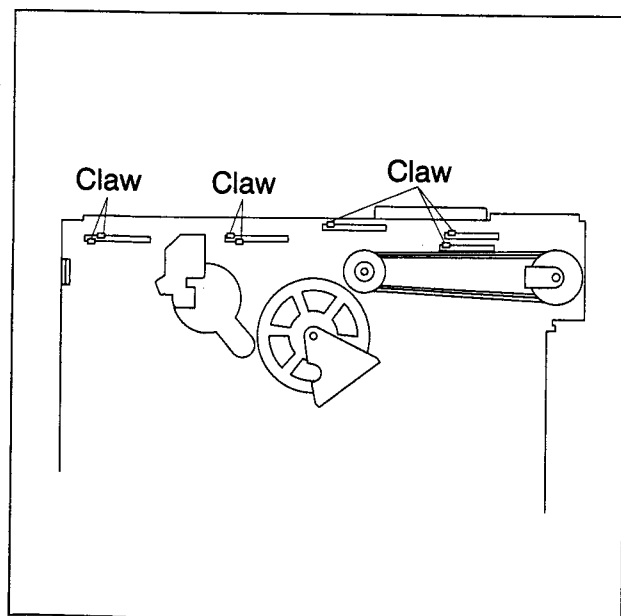


Fig. 2-5-16

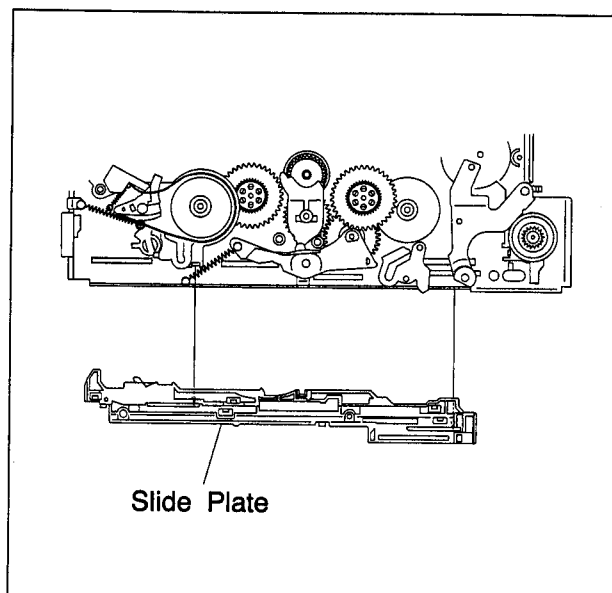


Fig. 2-5-17

2.5.11 Change Lever,Rotary Encoder

- (1) Remove the change lever.
- (2) Disengage 2 claws and remove the rotary encoder.

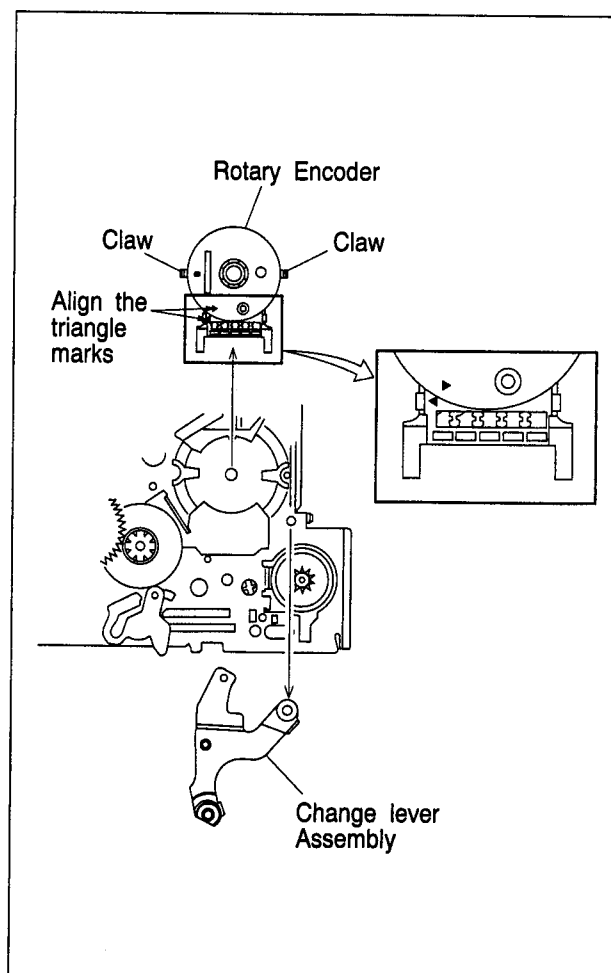


Fig. 2-5-18

2.5.12 Sub Brake (supply),Tension Band Assembly, Tension Arm Assembly, Take-up Lever Assembly,Slit Disk(supply)

- (1) Disengage 1 spring (a).
- (2) Disengage 1 claw and remove the sub brake (supply).
- (3) Take out 1 screw (S15),spring (c) and slit washer.

- (4) Remove the tension arm assembly with tension band assembly.
- (5) Disengage 1 spring (b) and remove the take-up lever assembly.
- (6) Remove the slit disk(supply).

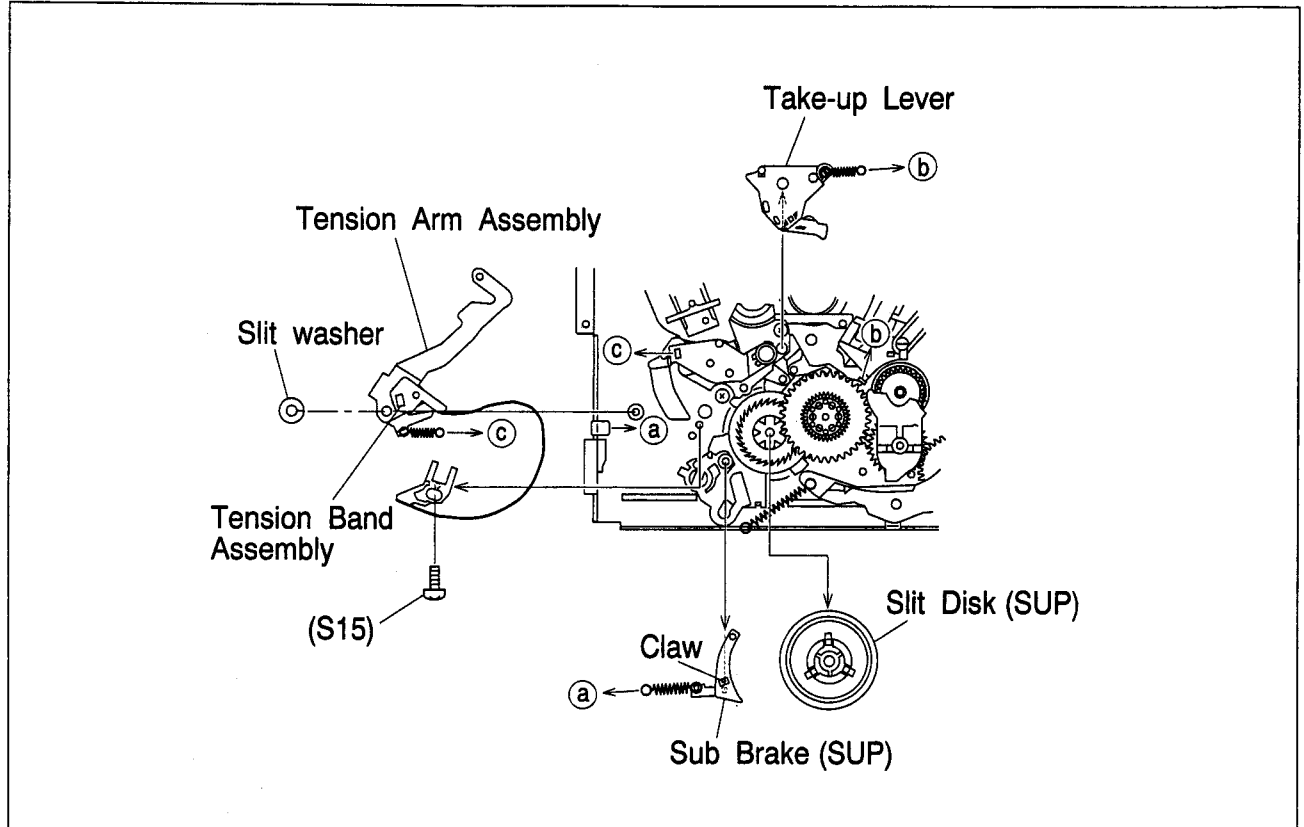


Fig. 2-5-19

2.5.13 Take-up Head,Tension Arm Lever

- (1) Remove the take-up head and tension arm lever.

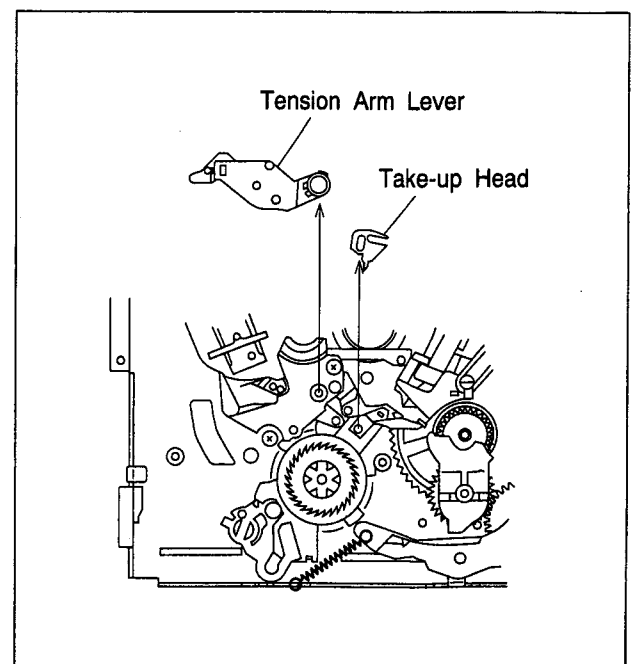


Fig.2-5-20

2.5.14 Guide Rail

- (1) Take out 4 screws (S8), 1 screw (S12) and 1 screw (S15).
- (2) Disengage 4 claws and remove the guide rail.

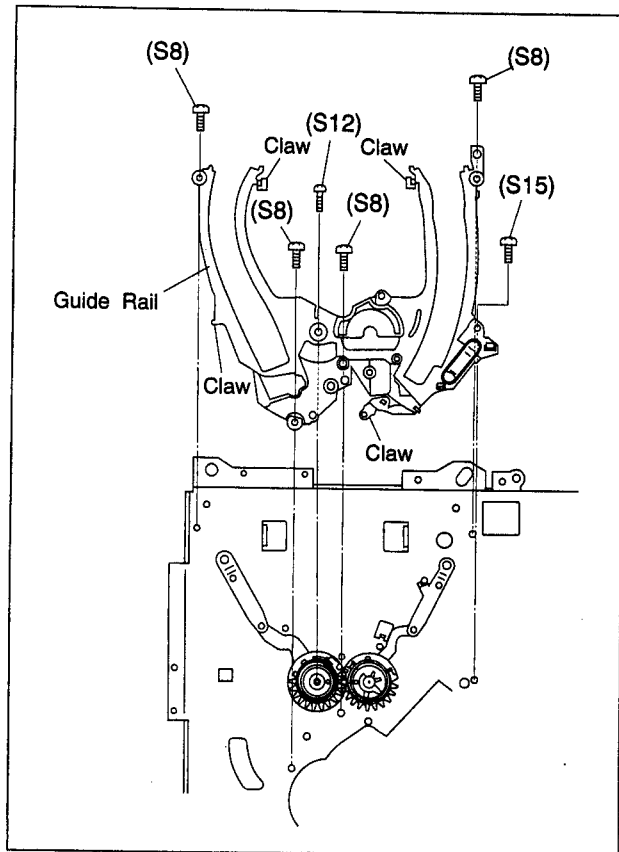


Fig. 2-5-21

2.5.15 Stator Assembly

- (1) Take out 2 screws (S10).
- (2) Raise the stator assembly in the direction indicated by the arrow to remove it (also remove the inertia roller).
- (3) Remove the flat cable.
- (4) To reinstall, first secure the flat cable, then insert 2 screws (S10).

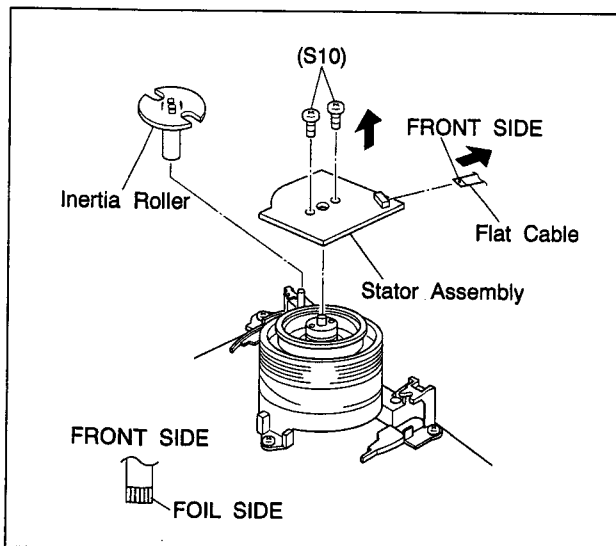


Fig. 2-5-22

- (5) After reinstalling, be sure to perform PB switching point adjustment (See SECTION 3 ELECTRICAL ADJUSTMENT).

NOTE : When refitting the connector, check that the flat wire is inserted correctly.

2.5.16 Rotor Assembly

- (1) Remove the stator assembly.
- (2) Take out 2 screws (S11) and remove the rotor assembly.

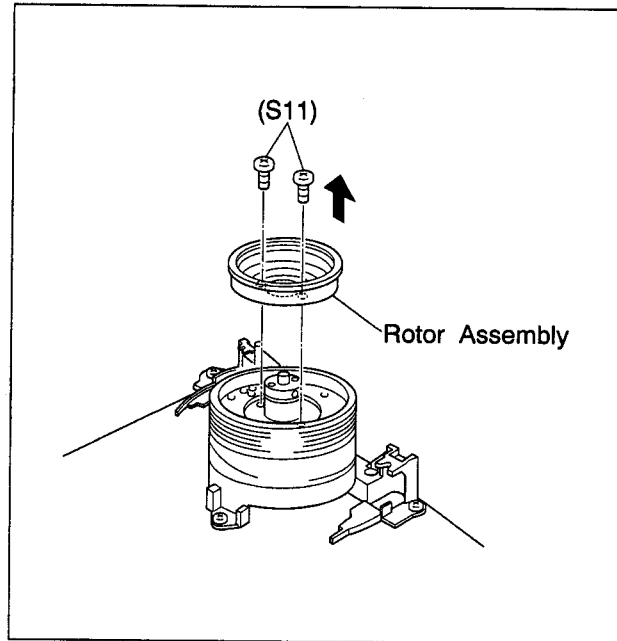


Fig.2-5-23

- (3) Align the upper drum assembly and rotor assembly phase as indicated in Fig.2-5-24.
- (4) Overlap holes (a) of the upper drum assembly with holes (b) of the rotor assembly and secure with 2 screws (S11) as indicated in Fig.2-5-23.

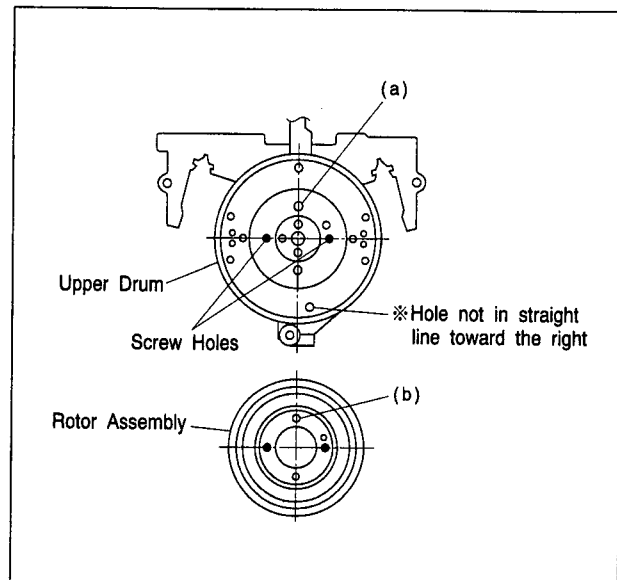


Fig. 2-5-24

2.5.17 Upper Drum Assembly

1. Removal

- (1) Remove the stator assembly and rotor assembly.
- (2) Use a 1.5 mm hexagonal driver to loosen the collar assembly screw and remove the collar assembly.
- (3) Remove the upper drum assembly and use tweezers to remove the washer.

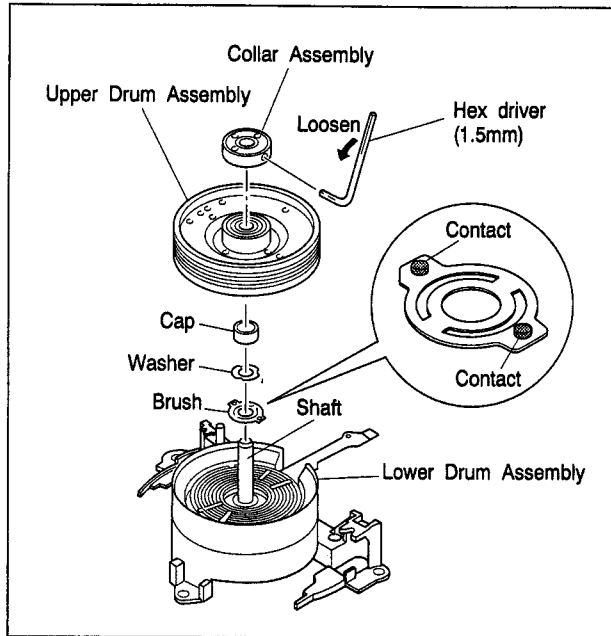


Fig. 2-5-25

NOTE : If the Brush is replaced, do not apply the grease to the contacts.

2. Installation

- (1) Use an air brush to clean the lower drum assembly and the coil section of the new upper drum assembly.
- (2) Set a new washer on the drum shaft as indicated in Fig.2-5-25.

NOTE : Be sure to use the new washer when replace the upper drum assembly.

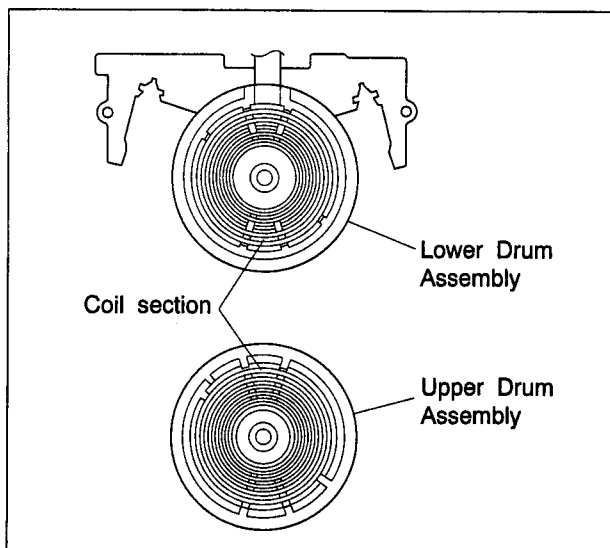


Fig.2-5-26

- (3) Note the top and bottom of the collar assembly and determine the position as indicated in Fig.2-5-27.

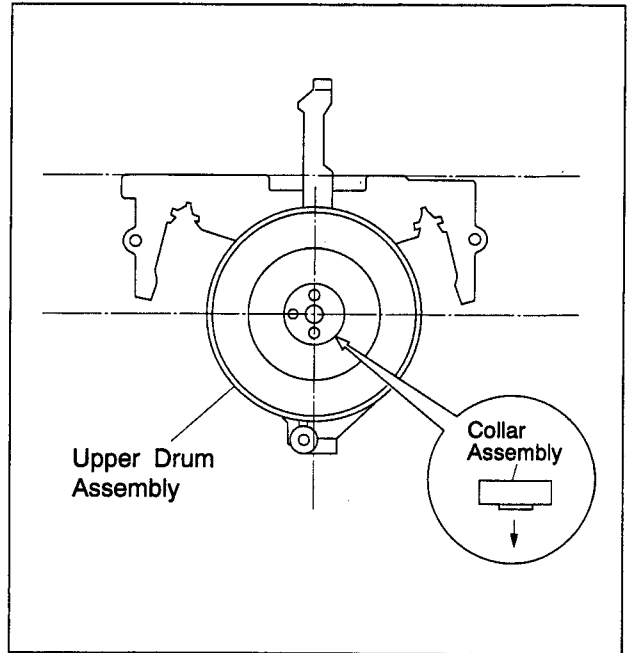


Fig.2-5-27

- (4) While pressing the collar assembly evenly from above with your fingertips, secure the hexagonal screw.

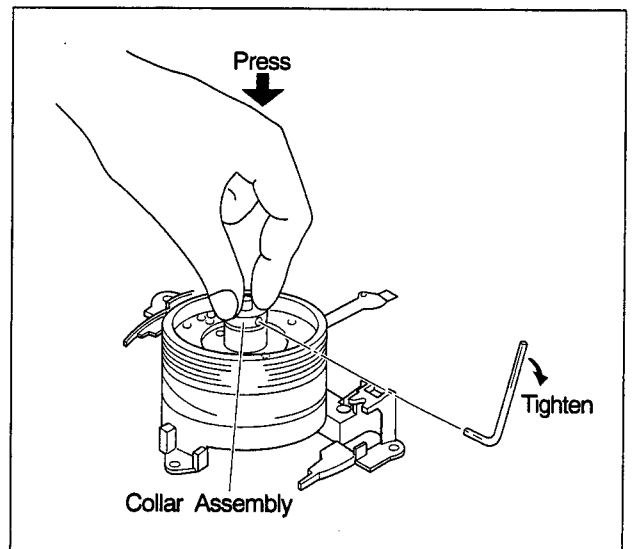


Fig.2-5-28

- (5) After installing, gently turn the upper drum by hand and confirm normal rotation.
- (6) Install the rotor assembly and stator assembly.
- (7) Clean the upper and lower drum assembly and perform the following adjustments;
 - Tape pattern adjustment (see 2.7.1)
 - X-value (see 2.7.3)
 - PB switching point adjustment (see 3.3.1)
 - Slow tracking preset adjustment (see 3.3.2)
 - SP/LP REC color level (see 3.4.9)
 - S-VHS VIDEO EQ (see 3.4.10)
 - Audio REC FM level (see 3.6.1)

2.5.18 Drum Sub Assembly

- (1) Remove the stator assembly.
- (2) Remove the rotor assembly.
- (3) Remove the PRE/REC board assembly.
- (4) Remove three screws (S8).
- (5) Replace the drum sub assembly and re-assemble the reverse order.
- (6) Clean the upper and lower drums and perform the following adjustment ,
 - Tape interchangeability adjustment (see 2.7.1 through 2.7.4)
 - PB switching point adjustment (see 3.3.1)
 - Slow tracking preset adjustment (see 3.3.2)
 - SP/LP REC color level (see 3.4.9)
 - S-VHS VIDEO EQ (see 3.4.10)
 - Audio REC FM level (see 3.6.1)

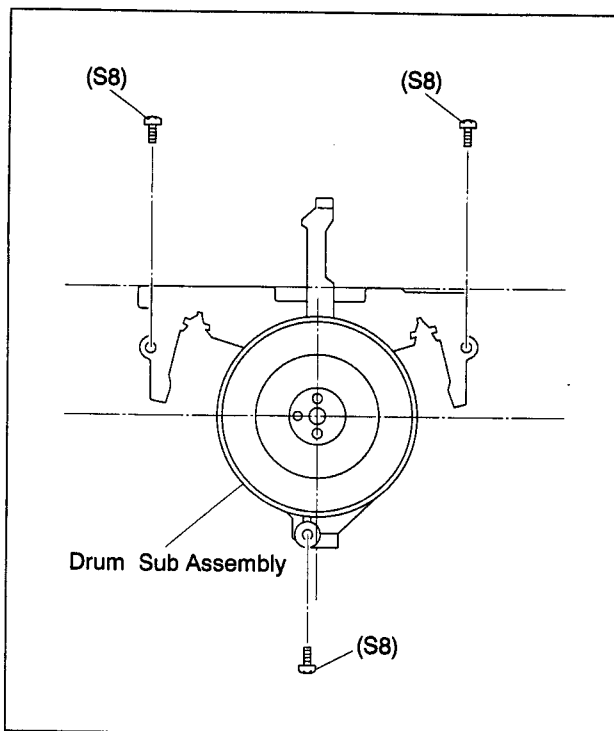


Fig.2-5-29

2.5.19 Pole Base Assembly

- (1) Remove the drum assembly. (see 2.5.18)
- (2) Turn the loading motor by hand in the loading direction as indicated in Fig. 2-1-1 to where the pole base assembly is positioned fully the drum side.
- (3) Remove two screws (S8) and then, do not remove the guide rail.
- (4) Pull up the pole base assembly upwards and then, replace the pole base assembly.
- (5) Reassemble the pole base assembly with reverse order as above steps.
- (6) Clean the drum assembly and the pole base assembly and other, perform the section 2.5.18 (6).

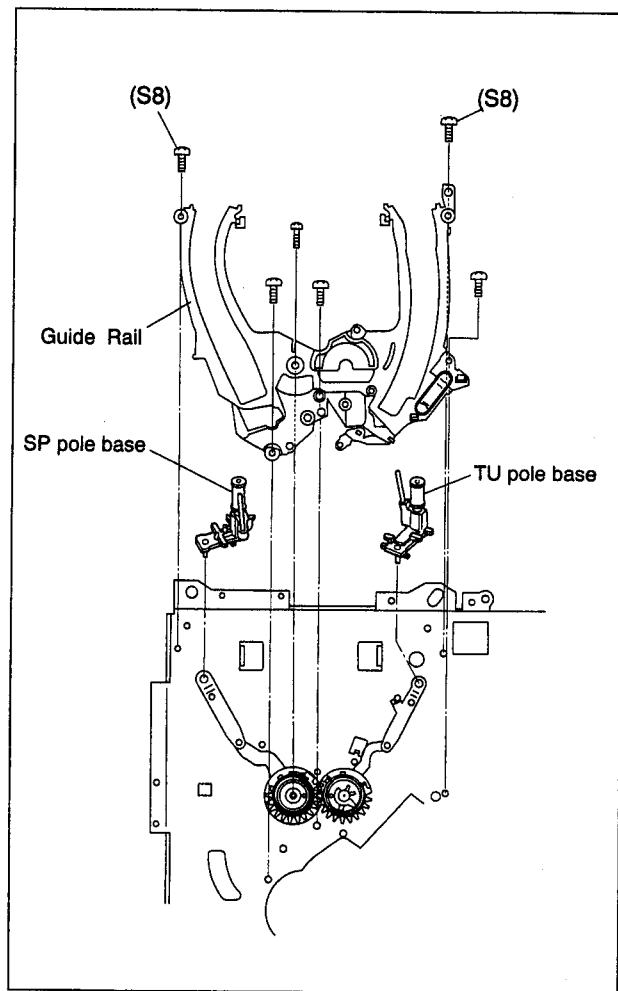


Fig.2-5-30

2.6 CHECK AND ADJUSTMENT OF MECHANISM PHASE

2.6.1 Precaution

The rotary encoder and syscon circuit are closely interrelated. Therefore, the rotary encoder and control cam connection determines the operations of mechanical parts such as plates, gears, brakes, etc. Correct positioning of these parts is essential for smooth tape loading and mechanical operations.

2.6.2 Loading Arm Assembly (supply, take-up)

- (1) Install the supply loading arm assembly and the take-up loading arm assembly so that their positioning markings on the respective gear face each other and the holes of their arms correspond to the holes on the main deck assembly respectively.
- (2) After setting the guide rails, engage the pole base assemblies with the tip of the loading arms respectively. Then, enter the mechanism into the unloading mode to return the pole base assemblies to the front position.
- (3) Reassemble the peripheral parts of the guide rail to its original position.

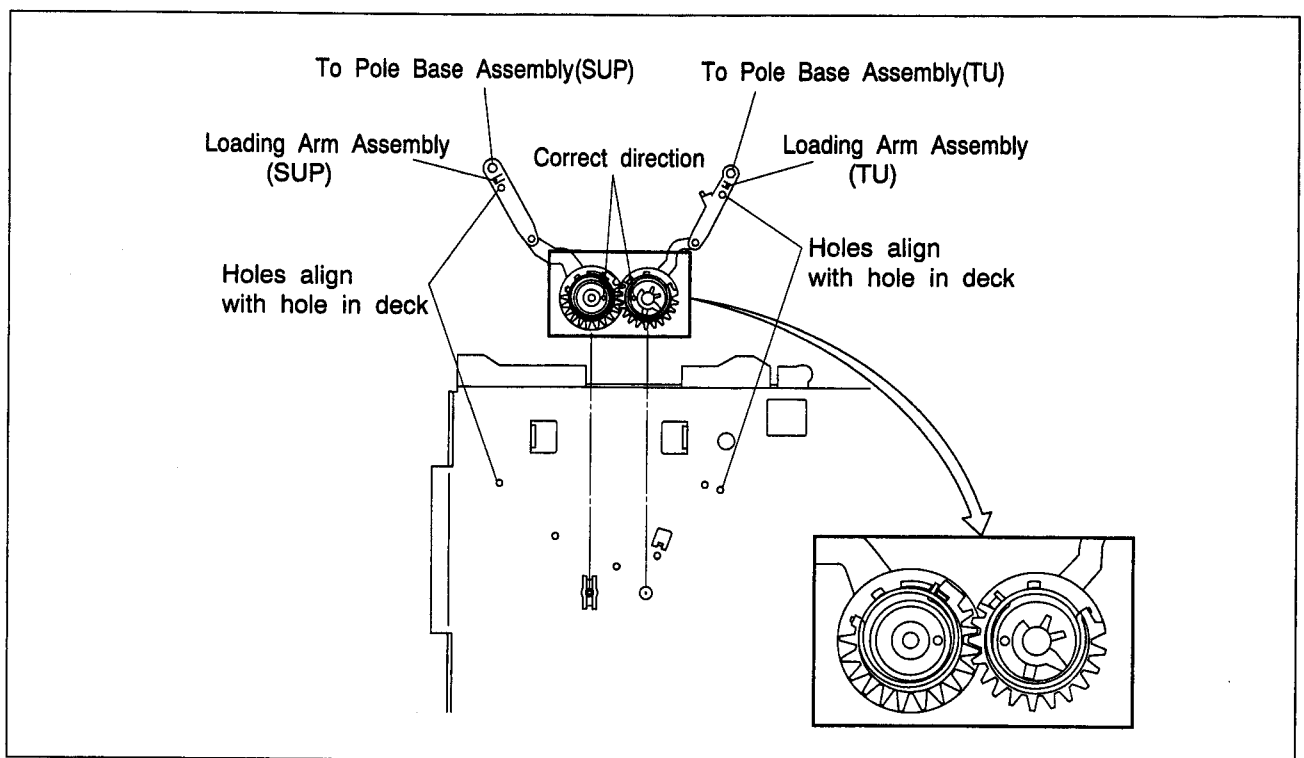


Fig. 2-6-1

2.6.3 Rotary Encoder, Change Lever, Control Cam

- (1) When reinstalling the rotary encoder, adjust its position so as to fit the triangle marks each other and push it deep untill it is locked by the pawls.
- (2) When reinstalling the change lever, set it so as to make its positioning hole correspond to the hole of the main deck assembly.
- (3) When re-engaging the control cam, lower the capstan brake assembly while setting it so as to make its positioning hole correspond to the hole of the main deck assembly.

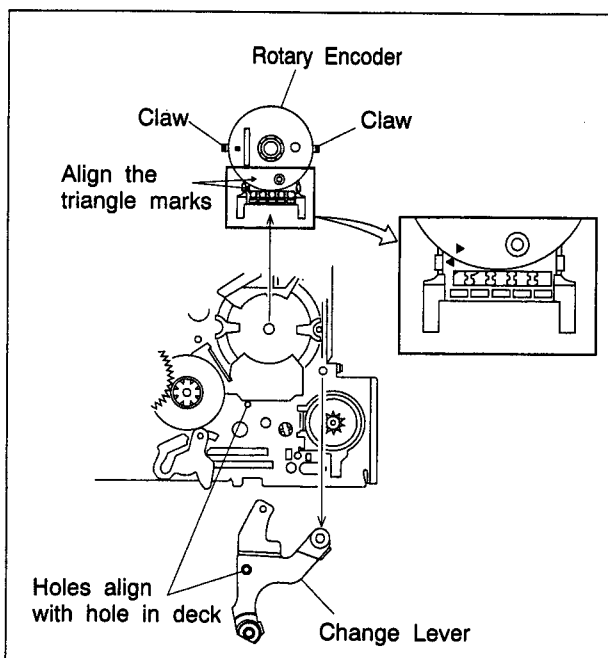


Fig. 2-6-2

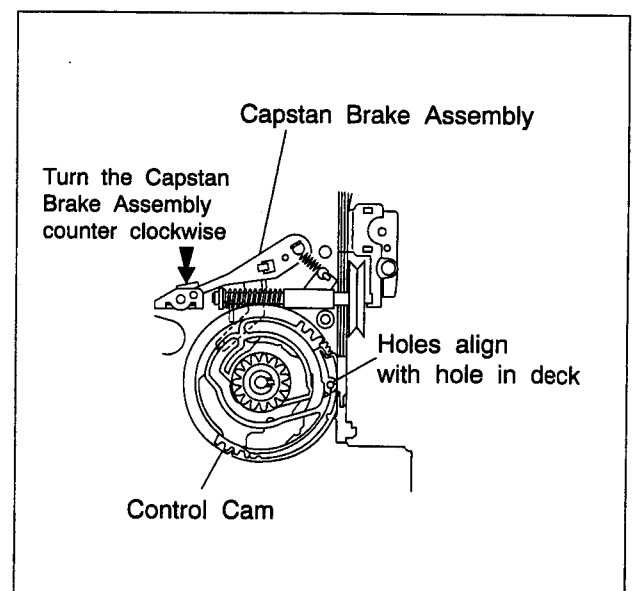


Fig. 2-6-3

2.6.4 Slide Plate

- (1) Lower both the main brake assembly (supply and take-up) until they touch the edge of the main deck assembly while reinstalling the slide plate so as to make the respective positioning holes of the main brake assembly correspond to the holes on the main deck assembly.

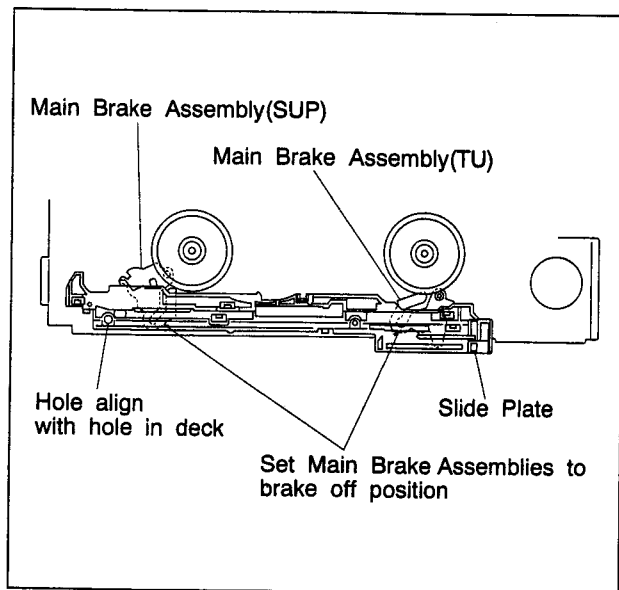


Fig.2-6-4

2.6.5 Control Plate

- (1) Reinstall the control plate so as to set the two positioning holes of it on the holes on the main deck assembly respectively and to set the positioning hole of the take-up lever on the hole of the main deck at the same time. When adjusting the hole position of the take-up lever, use a pair of tweezers to hold and move it since it is pulled by a tension spring.
- (2) After reinstalling the control plate, fix it with the slit washer, control bracket and control bracket-2.

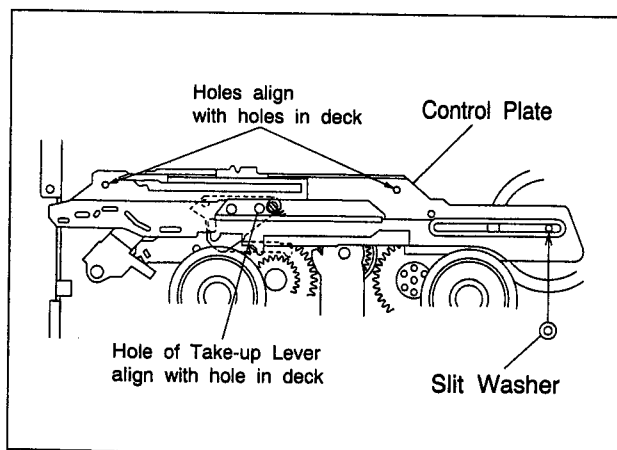


Fig. 2-6-5

2.7 TAPE INTERCHANGEABILITY ADJUSTMENT

NOTE : • *This adjustment is extremely important. Perform only after replacing major components(A/C head, upper/lower drum assembly, pole base assembly, etc). It is normally not required during routine service.*

- *Before using costly alignment tape, use a spare tape and confirm correct operation of the tape transport.*

2.7.1 Tape pattern

- (1) Connect the oscilloscope to TP6(PB FM) on the PRE/REC board. Use TP11(D.FF) on the PRE/REC board as a trigger. Set to $\ominus$ trigger slope of oscilloscope when MHPE alignment tape is played back and set to $\oplus$ trigger slope when MHPE-L alignment tape is played back.
- (2) Playback the SP stairstep portion of the alignment tape [MHPE]. Confirm that the FM waveform appears as indicated in Fig.2-7-1.
- (3) Set the manual tracking position by simultaneously pressing the "-" and "+" tracking buttons.
- (4) Operate the tracking adjustment (press the tracking buttons during playback) and set for maximum playback FM waveform.
- (5) By operating the tracking button, vary the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape as shown in Fig.2-7-1.
- (6) When the FM waveform does not remain flat during this process, first slightly loosen the set screw located at the bottom of the guide rollers. Using the guide roller adjustment tool (Roller driver), adjust the supply and take-up guide rollers (refer to Fig.2-7-2) to obtain the correct waveform as indicated in Fig.2-7-3.
- (7) By pressing the tracking buttons several times, vary the FM waveform output from maximum to minimum (and vice versa) gradually, and confirm that the variation proceeds in flat shape, as shown in Fig.2-7-3.
- (8) Next playback the LP stairstep portion of the alignment tape [MHPE-L] and adjust the tracking control from maximum to minimum the FM waveform, confirm that FM waveform variation is always flat.
- (9) Record the signal and play it back in both of the SP and LP mode, confirm that the FM waveform is flat in both mode.
- (10) After adjustments, tighten the set screw of the guide rollers.
- (11) Confirm that the tape wrinkling does not occur at the roller upper or lower limits as indicated in Fig.2-7-4.

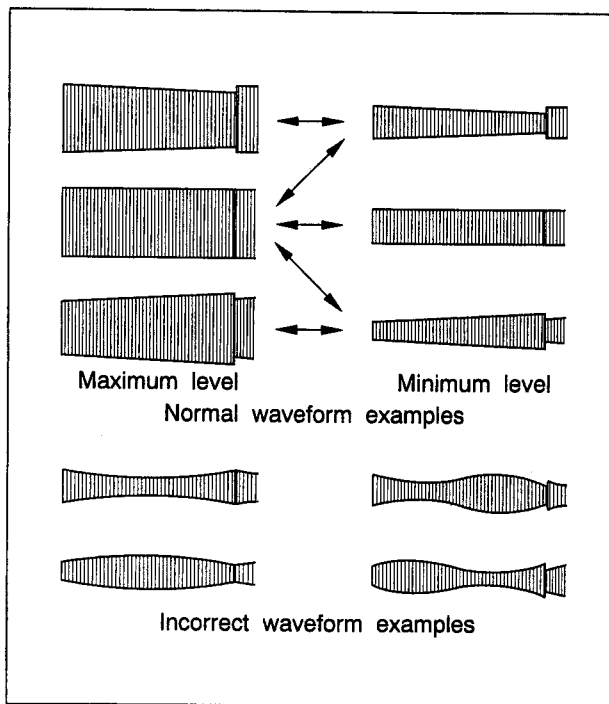


Fig. 2-7-1

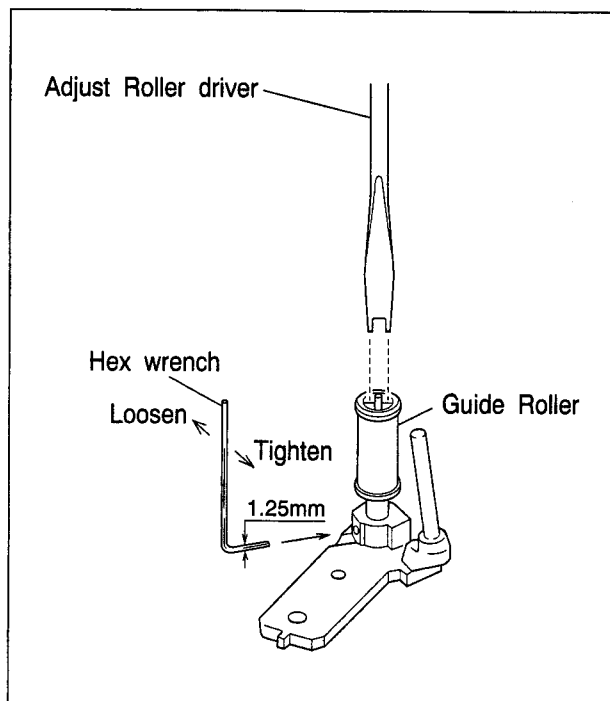


Fig. 2-7-2

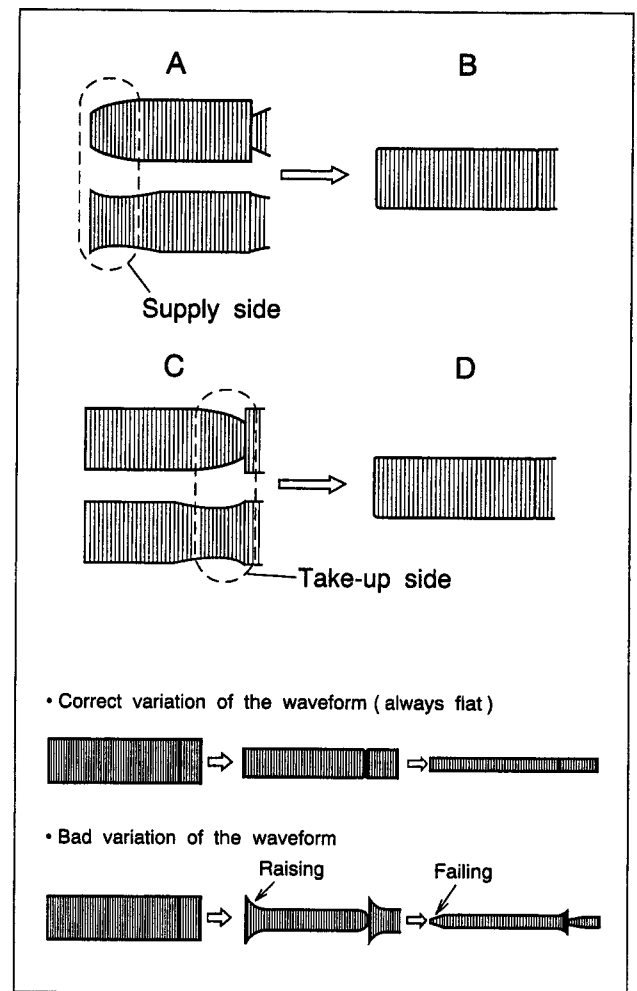


Fig. 2-7-3

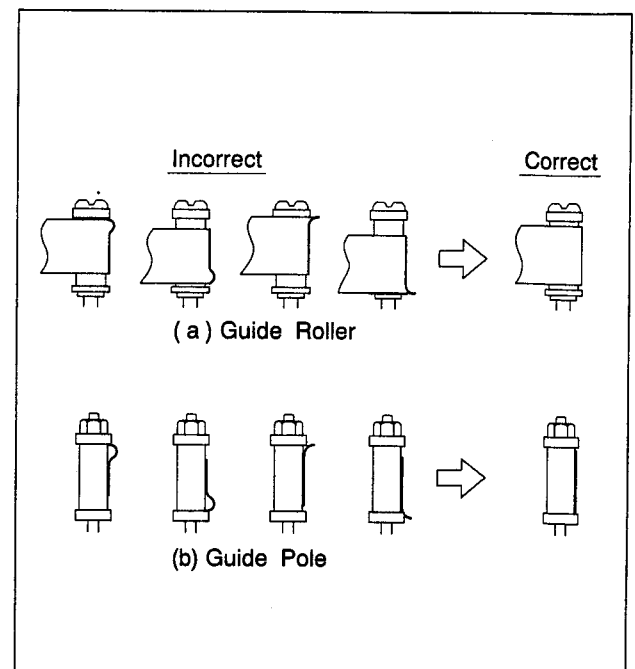


Fig. 2-7-4

2.7.2 A/C head height & azimuth

NOTE : • Temporarily set A/C head height as indicated in Fig. 2-5-4.

- Use spare tape to check the transport and confirm the tape is not scratched or damaged.

1. Tilt

- (1) Use spare tape and set for playback.
- (2) Turn screw (3) clockwise to where the tape curls just slightly at the TU guide pole bottom flange as shown in Fig.2-7-5.
- (3) Then slowly turn screw (3) counterclockwise to where the curling ceases.

2. Height

- (1) Connect CH-1 of a dual trace oscilloscope to Audio Out.
- (2) Connect CH-2 to TP401(CTL PULSE) of the Main board assembly and use the ALT mode.
- (3) Playback the SP stairstep portion of the alignment tape [MHPE].
- (4) Adjust screws (1),(2) and (3) for maximum audio output and control pulse level.

3. Azimuth

- (1) Connect the oscilloscope to Audio Out.
- (2) Playback the SP stairstep portion of the alignment tape [MHPE].
- (3) Adjust screw (2) so that the audio output is both maximum and with minimum fluctuation.

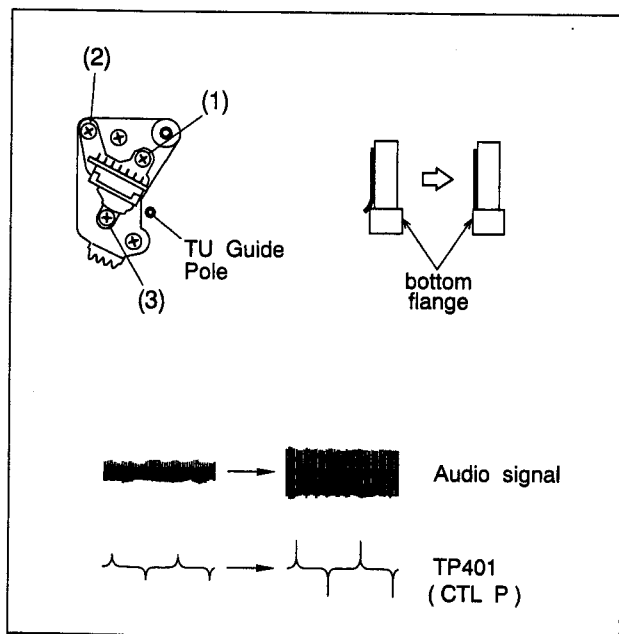


Fig. 2-7-5

- (4) If adjustment is required, slightly loosen screws (4) and (5). Set A/C head positioning tool on the A/C head adjusting boss as indicated in Fig.2-7-6.
- (5) Adjust A/C head to maximize the FM output and also, the phase difference between audio and FM signal of its "no-recorded" portion become less than 3 field as shown below.
- (6) Tighten screw (5) and (4).
- (7) Playback the alignment tape [MHPE].
- (8) Set the neutral manual tracking position by simultaneously pressing the "-" and "+" tracking buttons.
- (9) Press the "+" and "-" tracking buttons to confirm maximum playback FM waveform output level at the neutral manual tracking position.
- (10) If not maximum, slightly loosen the screws (4) and (5). Use the tool and adjust the head position for the nearest maximum point. Then tighten screws (4) and (5).
- (11) Check "2.7.4 X-value check".

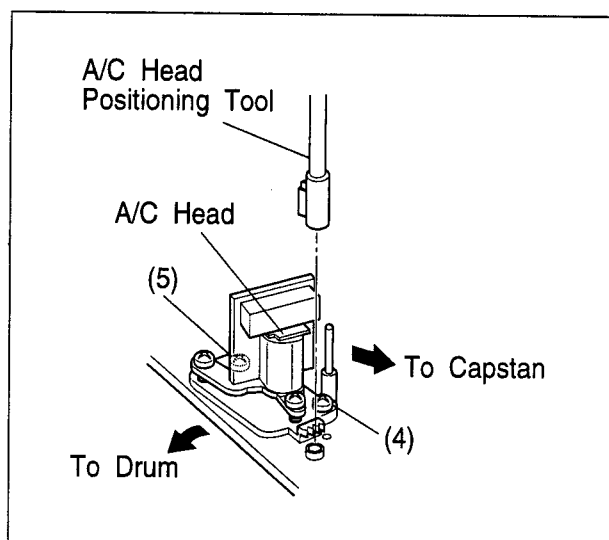


Fig. 2-7-6

2.7.3 A/C head phase(X-value)

- (1) Connect the oscilloscope to TP6(PB FM) on the PRE/REC board and Audio monitor out. Use TP11(D.FF) on the PRE/REC board as a trigger.
- (2) Playback the alignment tape [MBPE-X].
- (3) Set the neutral manual tracking position by simultaneously pressing the "-" and "+" tracking buttons.

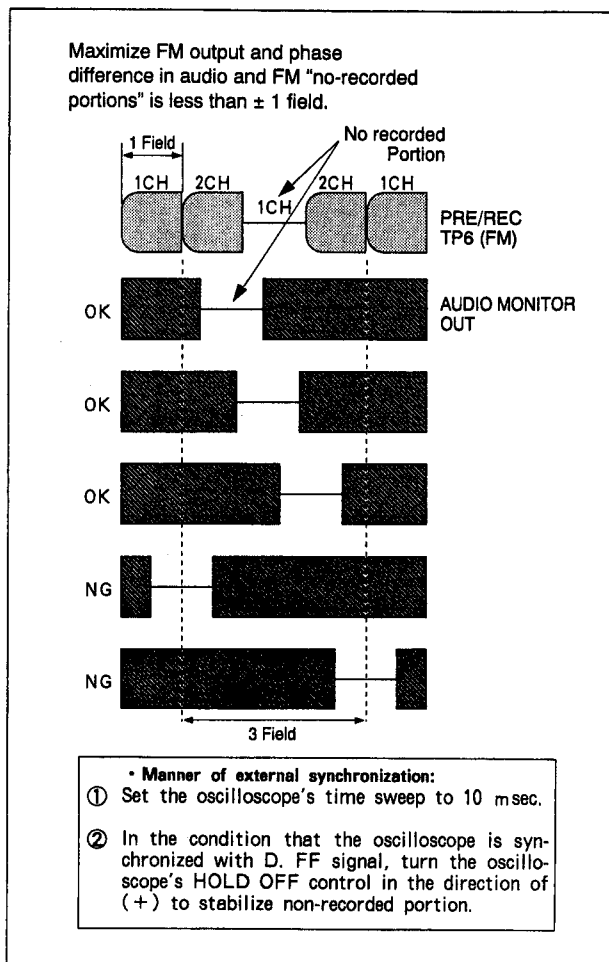


Fig. 2-7-7

2.7.4 X-value check

1. Set to service mode. (Refer to 1.5.2.)
2. Select "ADJUST MODE (SEL:23)" by pressing the **SELECT** button. (Refer to Fig. 1-5-1.)
3. Press the **SET** button, and the "ADJUST MODE SELECT" menu appears on the display. (Refer to Fig. 1-5-4.)
4. Select "SERVO MODE (Adj-3)" with the **SELECT** button. (Refer to Fig. 1-5-4.)
5. Press the **SET** button to enter the VTR into the SERVO adjustment mode. (Refer to Fig. 1-5-9.)
6. When the MHPE-L alignment tape is played back, "→" mark appears at the beginning of "LP TRACKING" and the VTR enters the switching point adjustment mode at the same time.

Notes:

- X-value check mode is display "LP TRACKING" on the monitor screen.
- If a cassette tape that has no safety tab (erasure prevention tab) and something has been recorded on in the LP mode is played back, the VTR enters the adjustment mode. Carefully check the cassette tape before playing it back.

7. Press the **TRACKING +** (SET) and **TRACKING -** (SELECT) buttons together to "AT OFF" on monitor screen and then, press them one more time to "AT ON". The front panel display "AT" and X-value check mode is activated.
8. If the monitor screen change to "AT OFF" and the front panel undisplay "AT", the X-value is adjusted correctly. If the cassette tape is ejected, X-value have to be re-adjusted.
9. Press the **MENU** button to quit the X-value check mode.

2.7.5 Tension pole position

- (1) Set for playback mode using MECHANISM SERVICE MODE(See SECTION 1.4).
- (2) Slightly loosen the screw (A).
- (3) Turn the adjust pin so that the tension arm assembly does not touch $\phi 2.5$ pole on the outside.
- (4) Tighten the screw (A).
- (5) After adjustment, use the cassette torque meter [PUJ42881] and set for the playback mode.
- (6) Confirm reading of 29 to 46 g-cm as supply torque.

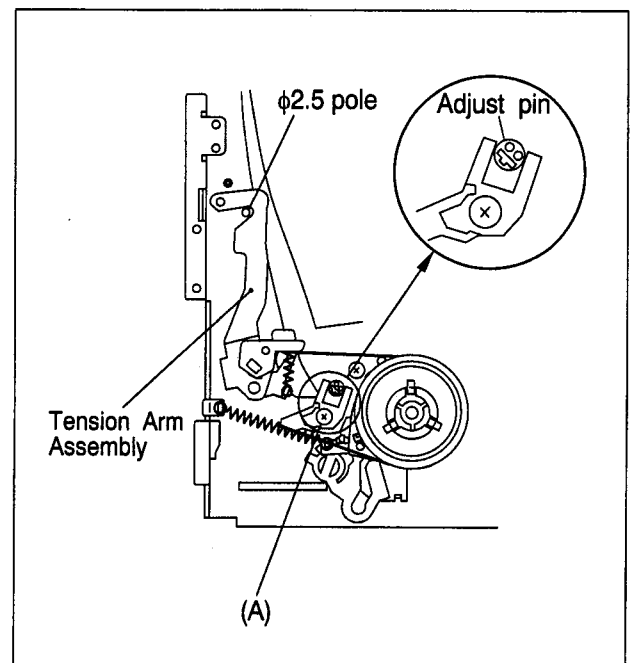


Fig. 2-7-8

2.7.6 Take-up torque

- (1) Use the cassette torque meter [PUJ42881] and set for the playback mode.
- (2) Confirm reading of 50 to 100 g-cm as take-up torque.

SECTION 3 ELECTRICAL ADJUSTMENT

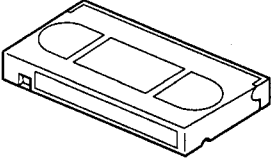
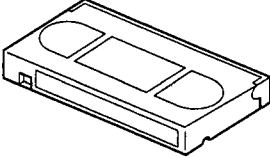
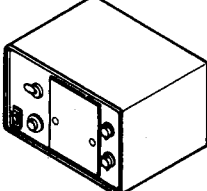
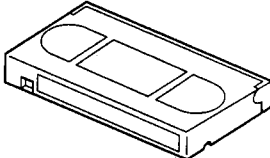
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

- ① Color television or monitor
- ② Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- ③ Frequency counter
- ④ Digital voltmeter
- ⑤ Signal generator: RF/IF sweep/maker
- ⑥ Signal generator: EBU color bars (Y/C, composite)
Pulse & ber
- ⑦ Recording tape

3.1.2 Required adjustment tools

Alignment tape (SP staircase) MHPE	Alignment tape (S-VHS SP/LP color bar) MH-2H
	
Carrier checker PGJ05008	Alignment tape (SP color bar) MHVE-2
	

3.1.3 About board address

Consisting of numeral and alphabet following the symbol of a measurement point and a adjustment part indicates a section of the specified board where theirs are located.

3.1.4 Signals required for video system adjustment

- Color bars signal (composite and Y/C)
(color level; 75%)

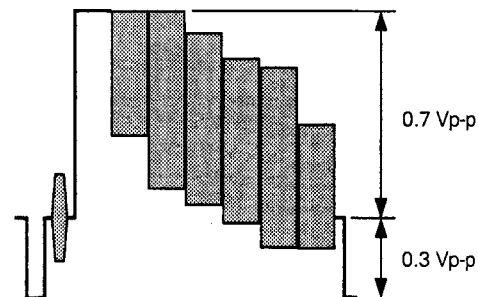
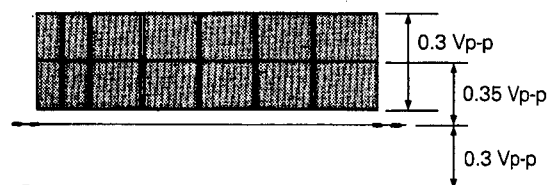


Fig.3-1-1 Color bars signal waveform

To be used for Y/C level adjustment.

All color levels appearing in this chapter are measured or to be measured with this color bar signal. Make sure not to use other color bar signals such as of 100% in the color level, since it leads to different and wrong measurement results.

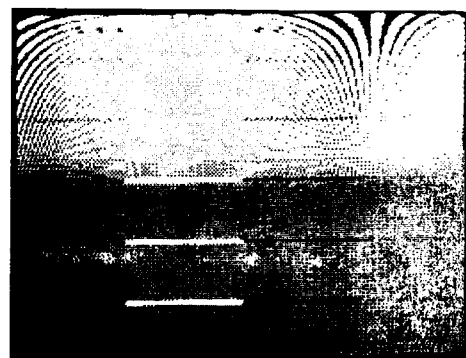
- Video sweep signal (100k - 5MHz)



To be used for frequency response adjustment (VIDEO EQ).

To supply this signal through the LINE IN terminal, make sure to use a sweep signal having a good characteristic in the H correlation in order to avoid erroneous operation of comb filters.

For a reference, a signal having a good H correlation shows such a clear pattern as neighboring black and white lines are the same in the width and the interval on the monitor as shown in the figure below.



3.2 SWITCHING REGULATOR CIRCUIT

Note: • Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.

3.2.1 5V DC output voltage

Signal	• Color bar
Mode	• REC : SP
Equipment	• Digital voltmeter
Measurement point	• TP801 (SWD 5V) : 3B
Adjustment part	• VR801 (SWD 5V) : 2B
Specification	• $5.22 \pm 0.10V$ DC

- (1) Connect a digital voltmeter to TP801 and TP802 : 3B GND.
- (2) Adjust VR801 for $5.22 \pm 0.10V$ DC.

3.3 SERVO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

• This adjustment use the service mode. Refer to "1.5 Service mode" about detail of the service mode.

3.3.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep
Mode	• PB, Automatic tracking: OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP11 (DRUM FF), [PRE/REC BOARD] : 5D
Specification	• $8.5 \pm 0.5H$

- (1) Play back the alignment tape, MHPE and set to "AT OFF" mode by pressing "+" and "-" tracking buttons simultaneously.
- (2) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (3) Select the "ADJUST MODE" with pressing the **SELECT** button and press the **SET** button. "ADJUSTMENT MODE SELECT" menu comes up.
- (4) Select the "SERVO MODE" with pressing the **SELECT** button and press the **SET** button.
- (5) Play back the alignment tape MHPE, then "→" appears left of the item "SW POINT ADJ" and enter the auto adjustment mode.
- (6) Adjust the tracking "+" and "-" buttons so that the switching point is $8.5 \pm 0.5 H$ before V. sync.
- (7) Depress the **STOP** button.

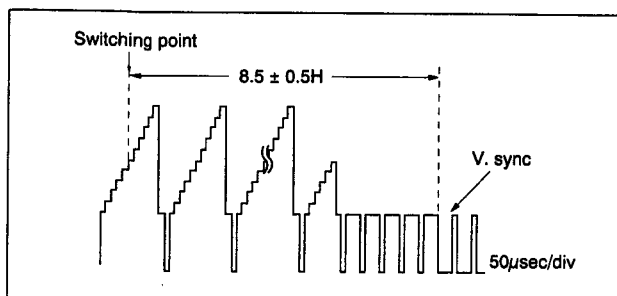


Fig.3-3-1 PB switching point

3.3.2 Slow tracking preset

Signal	• Color bar
Mode	• SP/LP, REC → PB(SLOW) Automatic tracking OFF
Equipment	• TV-Monitor
Specification	• Minimum noise

- (1) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (2) Select the "ADJUST MODE" with pressing the **SELECT** button and press the **SET** button. "ADJUST MODE SELECT" menu comes up.
- (3) Select the "SERVO MODE" with pressing the **SELECT** button and press the **SET** button.
- (4) Record a color bar signal in the SP mode.
- (5) Playback recorded signal on the FWD slow mode (press the **PAUSE** button more than 2 seconds).
- (6) "→" appears left of the item "SP FWD SLOW" and enter the adjustment mode.
- (7) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing "+" or "-" tracking buttons.
- (8) Depress the **STOP** button.
- (9) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
- (10) Repeat steps (5) to (9) in REV slow mode (press the **PAUSE** button more than 2 seconds in REV search mode).
- (11) Repeat steps (4) to (10) in LP mode.

3.4 VIDEO CIRCUIT

Notes: • Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

- VIDEO circuit adjustments are performed by the EVR system by use of the service mode.
- S-INPUT means Y/C separated video signal in the chart.
- Set the EDIT SELECT to OFF position.
- To select either S-VHS or VHS mode automatically, set the menu switch No. 100 S-VHS SELECT to AUTO (1) and insert a cassette tape.
- Set the TBC switch to OFF.

• How to setting the EVR adjustment

- (1) Set to service mode by pressing the **STOP**, the **PAUSE** and the **MENU** buttons simultaneously.
- (2) Select the "ADJUST MODE SELECT" menu comes up.
- (3) Select the "EVR MODE" with pressing the **SELECT** button and press the **SET** button more than 2 seconds.
- (4) Set the "EVR No." with pressing the **C.RESET** button.

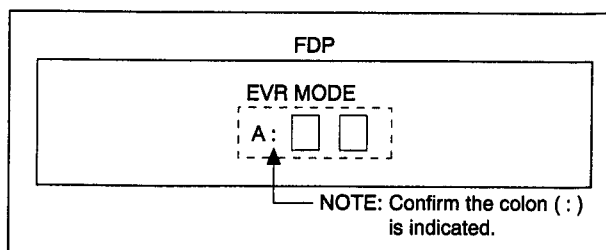


Fig.3-4-1 EVR mode

3.4.1 EE Y level of S-INPUT

Signal	• Color bar • S-INPUT
Mode	• EE • S-VHS • SP
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
EVR mode	• A : 11
Specification	• $1.00 \pm 0.03 \text{ Vp-p}$ (75 Ω terminated)

- (1) Connect an oscilloscope to Y/C Y OUT TERMINAL.
- (2) Adjust **SET** or **SELECT** button for $1.00 \pm 0.03 \text{ Vp-p}$.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized in video unit IC6.

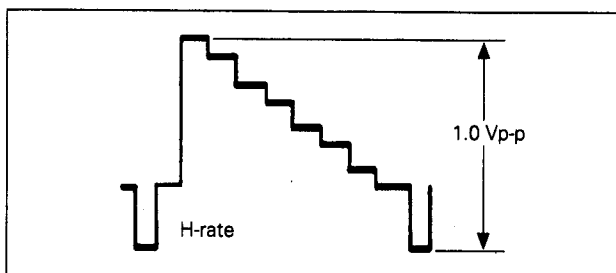


Fig. 3-4-2 AGC Y level

3.4.2 Digital I/O level (EE Y level of LINE-INPUT)

Signal	• Color bar
Mode	• EE • S-VHS • SP
Equipment	• Oscilloscope
Measurement point	• TP101[DIGITAL SUB] (Y/V To SEP) • CN205 - pin6 (SEPAD Y1)
Adjustment part	• R68 (DIGITAL I/O LEVEL) : 5B [Y/C SEP board]
Specification	• Equal level

- (1) Remove the DIGITAL SUB board from chassis and tip the Y/C SEP board together DIGITAL SUB board.
- (2) Connect the channel (CH-1) of a dual trace oscilloscope to CN206 - pin4 and the other channel (CH-2) to CN206 - pin6 on the MAIN board.
- (3) Set the oscilloscope for DUAL mode, and overlap the waveform.
- (4) Adjust R68 for equal Y levels.

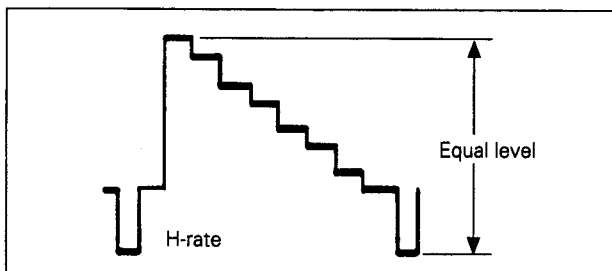


Fig. 3-4-3 Digital I/O level

3.4.3 Sub emphasis Input level

Signal	• Color bar • S-INPUT
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP205 (SUB EMPHASIS) : 21A
EVR mode	• A : 15
Specification	• $400 \pm 20 \text{ mVp-p}$

- (1) Connect an oscilloscope to TP205.
- (2) Adjust **SET** or **SELECT** button of the remote controller for $400 \pm 20 \text{ mVp-p}$.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

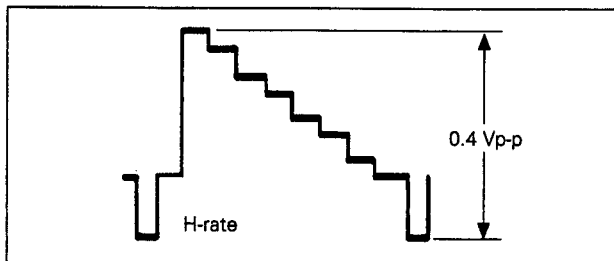


Fig. 3-4-4 Sub emphasis input level

3.4.4 White/dark clip (S-VHS/VHS)

Signal	• Color bar • S-INPUT
Mode	• EE • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• TP204 (W/D CLIP) : 22D
EVR mode	• A : 14
Specification	• WHITE CLIP : $110\% \pm 4\%$ (S-VHS) 90% $\pm 4\%$ (VHS) DARK CLIP : 70% $\pm 8\%$ (S-VHS) 45% $\pm 8\%$ (VHS)

- (1) Connect an oscilloscope to TP204.
- (2) Adjust **SET** or **SELECT** button for $110 \pm 4\%$ (S-VHS), $90 \pm 4\%$ (VHS) white clip and $70 \pm 8\%$ (S-VHS), $45 \pm 8\%$ (VHS) dark clip as shown in Fig.3-4-4.
- (3) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

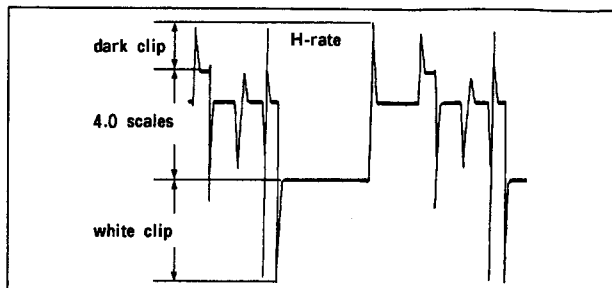


Fig.3-4-5 White/dark clip

3.4.5 Carrier/deviation (S-VHS/VHS)

Signal	• Color bar • S-VHS/VHS • S-INPUT
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• TP202 : 22E
Adjustment tool	• Carrier checker (PGJ05008-2)
EVR mode	• A : 13 (deviation) • A : 12 (carrier)
Specification	• Carrier : 5.4MHz$\pm$30KHz (S-VHS) : 3.8MHz$\pm$30KHz (VHS) • Deviation : 1.6MHz$\pm$30KHz (S-VHS) : 1.0MHz$\pm$30KHz (VHS)

- (1) Connect the carrier checker to TP202 and its output to the oscilloscope.
- (2) In the S-VHS mode select the S-VHS board of the carrier checker, adjust **SET** or **SELECT** button to accord the sync tip with the "LOWER" marker and to accord the 100% white with the "UPPER" marker.
- (3) In the VHS mode select the VHS board of the carrier checker, adjust **SET** or **SELECT** button to accord the sync tip and the "LOWER" marker and to accord the 100% white and the "UPPER" marker.
- (4) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

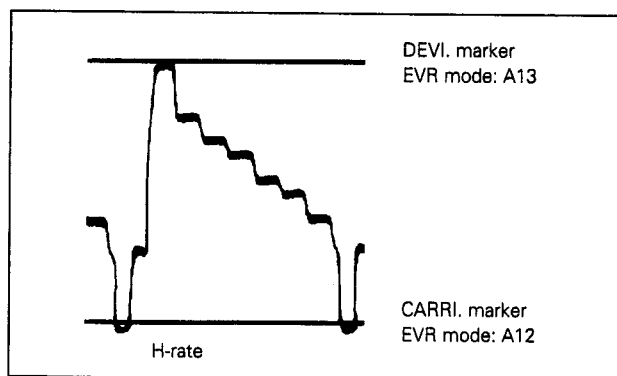


Fig. 3-4-6 Carrier/Deviation

3.4.6 PB Y level (S-VHS/VHS)

Signal	• Color bar • S INPUT
Mode	• REC $\rightarrow$ PB : SP • S-VHS / VHS • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
EVR mode	• A : 11
Specification	• 1.00 $\pm$ 0.03Vp-p (75 Ω terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Record a color bar signal in S-VHS(VHS) mode and play it back.
- (3) Adjust **SET** or **SELECT** button for 1.00 $\pm$ 0.03Vp-p as shown in Fig.3-4-7.
- (4) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

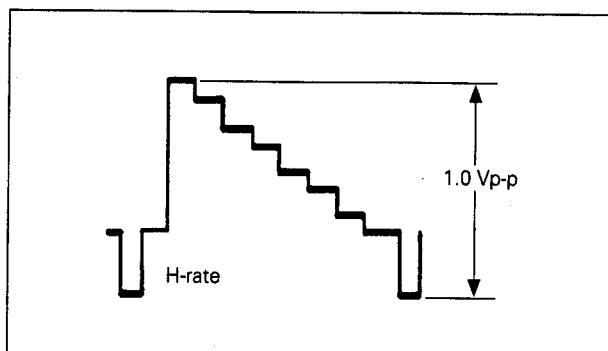


Fig.3-4-7 PB Y level

3.4.7 TBC output level

Signal	• Color bar • S-INPUT
Mode	• REC $\rightarrow$ PB : SP • S-VHS • TBC : ON
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
Adjustment part	• VR1 : 4C [TBC board] • VR2 : 3C [TBC board]
Specification	• SYNC level : 0.3 Vp-p • Y level : 0.7 Vp-p (75Ω terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Adjust VR1 so that the SYNC level becomes 0.3 Vp-p.
- (3) Adjust VR2 so that the Y level becomes 0.7 Vp-p.

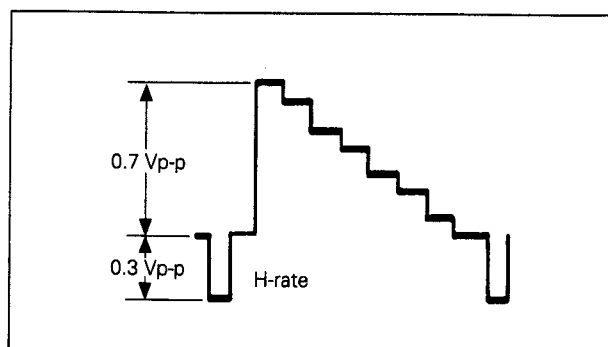


Fig.3-4-8 TBC output level

3.4.8 Pilot burst level

Signal	• Color bar • S-INPUT
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP203 : 22D
EVR mode	• A : 16
Specification	• 110%

- (1) Adjust the gain of the oscilloscope to set the burst signal level to 4.0 scale divisions.
- (2) Adjust by SET or SELECT button to be the pilot burst signal level for 4.4 scale divisions.
- (3) Set normal VCR mode by pressing MENU button so adjustment data is memorized.

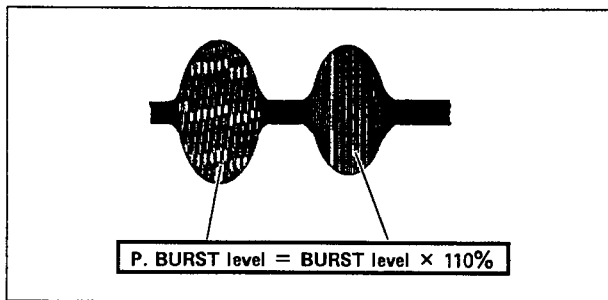


Fig. 3-4-9 Pilot burst level

3.4.9 SP/LP REC color level

Signal	• Alignment tape [MH-2H]Color bar • Alignment tape MHVE-2
Mode	• PB (SP/LP) • REC → PB : SP/LP • S-VHS/VHS (SP)
Equipment	• Oscilloscope
Measurement point	• TP211 (PB color out) : 22J
Trigger slope (-)	• TP11 (DRUM FF) [PRE/REC board] : 5D
EVR mode	• A : 2
Specification	• +2.0 dB : SP/S-VHS • +4.0 dB : LP/S-VHS • ±0 dB : SP/VHS

- (1) Playback the SP (LP) color bar signal of MH-2H and MHVE-2 alignment tape.
- (2) Short between TP209 and TP210 with shorting lead.
- (3) Adjust the gain of the oscilloscope to set the higher color level to 4.0 scale divisions.
- (4) Press the **STOP** button and eject the alignment tape.
- (5) Set EVR mode A:2.
- (6) Record a color bar signal in SP (LP) mode, and playback recorded color bar signal.

- (7) Before recording, adjust **SET** or **SELECT** button so that the higher level channel becomes 5.0 scale (+2.0 dB) : SP [6.5 scale (+4.0 dB) : LP, 5.0 scale (±0 dB) : VHS SP] during playback as shown in Fig. 3-4-11.
- (8) Set normal VCR mode by pressing **MENU** button so adjustment data is memorized.

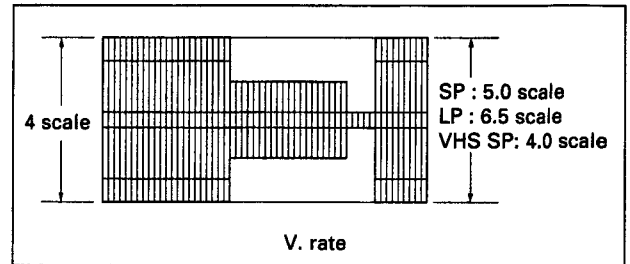


Fig. 3-4-10 REC color level

3.4.10 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • EDIT SELECT REC : OFF PB : DUB • TBC : ON
Equipment	• Oscilloscope
Measurement point	• Y/C Y OUT TERMINAL
Adjustment part	• R113 (S-SP VIDEO EQ) : 2D [PRE/REC board] • R114 (S-EP VIDEO EQ) : 3D [PRE/REC board]
Specification	• 3.6 scale R113 : SP • 3.4 scale R114 : LP

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Record a video sweep signal in S-VHS SP mode, then play it back.
- (3) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R113 so that 3.0 MHz marker level becomes 3.6 scale divisions.
- (4) Record a video sweep signal in S-VHS LP mode, then play it back.
- (5) If the sweeper's 100 kHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R114 so that 3.0 MHz marker level becomes 3.4 scale divisions.

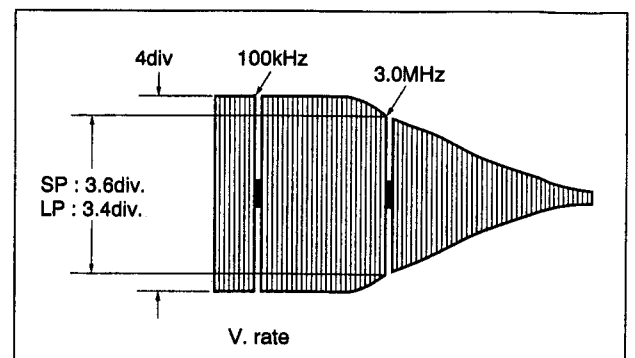


Fig. 3-4-11 S-VHS VIDEO EQ

3.4.11 AFC CLOCK

Note: For the following adjustments, use 1 : 1 probe with input capacitance less than 100 pF.

Signal	• No signal
Mode	• PB (not yet used tape)
Equipment	• Frequency counter
Measurement point	• TP301 : 16M
Adjustment part	• VR301 (fH) : 17M
Specification	• 15.625 ± 0.10 kHz

- (1) Connect the frequency counter to TP301 and GND.
- (2) Adjust VR301 for 15.625 ± 0.10 kHz.

3.5 PRE/REC CIRCUIT

3.5.1 REC FM level

Note: The R12, REC FM level is not necessary to be re-adjusted for any cases servicing.
If it is turned accidentally or IC1 need to be replaced for some reason, whole PRE/REC board have to be replaced.

3.6 AUDIO CIRCUIT

Note: Unless otherwise specified, all measurement point and adjustment parts are located on the PRE/REC BOARD.

3.6.1 REC FM level

Signal	• VIDEO : Color bar • Audio : No signal
Mode	• REC → PB : LP • S-VHS • Automatic tracking : OFF
Equipment	• Oscilloscope
Measurement point	• TP53 (A. PB FM)
Trigger slope (-)	• TP11 (DRUM FF)
Adjustment part	• R216 (A. REC FM LEVEL)
Specification	• 70 ± 10 mVp-p

- (1) Connect an oscilloscope to TP53.
- (2) Record a color bar signal without an audio signal in S-VHS LP mode then playback.
- (3) Adjust R216 for 70 mVp-p playback level of higher channel level before recording.
- (4) Confirm that the lower channel level is more than 40 mVp-p.

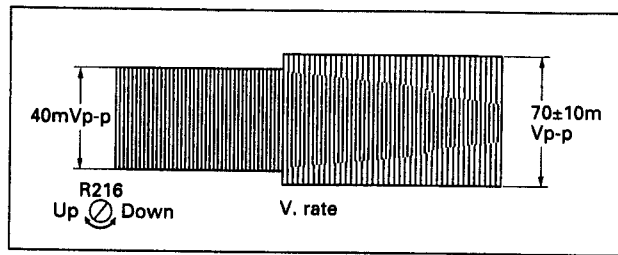


Fig. 3-6-1 Audio REC FM level

3.6.2 Audio EE level

Signal	• 1kHz, -8dBs
Mode	• EE • Audio out select : HiFi L+R
Equipment	—
Measurement point	• Sound level meter (Front panel)
Adjustment part	• VR1(A LEV ADJ (L)) [MAIN board] : 7M • VR2(A LEV ADJ (R)) [MAIN board] : 7M
Specification	• 0 dB

- (1) Set the HiFi REC level VR to center click position.
- (2) Adjust VR1 and VR2 so that the sound level meter shows 0dB.

3.7 SYSCON CIRCUIT

Note: Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.

3.7.1 CPU clock

Notes: • For the following adjustment, use 1 : 1 probe with input capacitance less than 100 pF.
• Do not use the probe of the oscilloscope.

Signal	• No signal
Mode	• EE
Equipment	• Frequency counter
Measurement point	• IC601-pin 64 (TP604) : 12F • TP602 (GND) : 16C
Adjustment part	• VC601 (CPU CLK) : 16D
Specification	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μ s)

- (1) Short between TP603 : 17G and IC601-pin 63 (L601 : 14F) with shorting lead.
- (2) Short the lead of C610 : 17D (between TP605 : 17D and TP602 : 16C) once in order to reset CPU.
- (3) Adjust VC601 so that the frequency of CPU clock is 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μ s).

SECTION 4 CHARTS AND DIAGRAMS

4.1 NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components Identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

1. Units of components on the schematic diagram

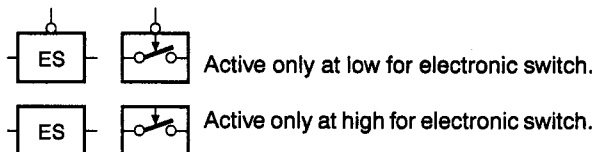
Unless otherwise specified.

- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
k: k Ω (1000 Ω), M: M Ω (1000k Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or IN4148M (refer to parts list).

2. Indications of control voltage

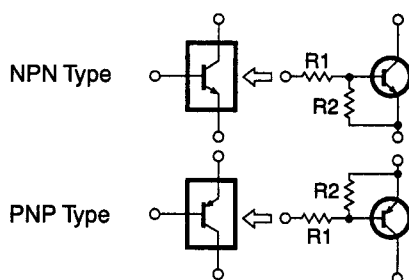
AUX : Active at high.

AUX or AUX(L) : Active at low.

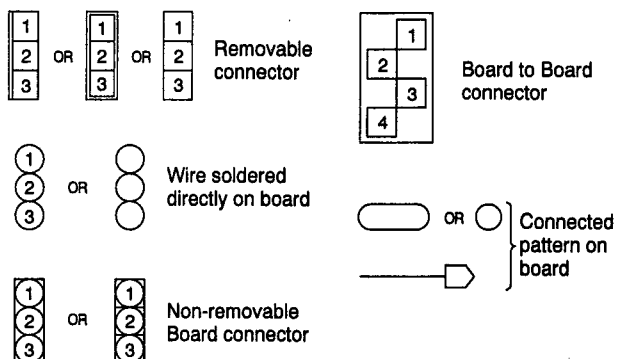


Digital transistor :

The digital transistor includes built in resistors. It features small size and high reliability.



3. Interpreting Connector Indications



4. Voltage measurement

1) Video circuits

REC : Supplied color bar signal and measured in SP, S-VHS mode.

PB : Played back alignment tape MH-2H of color bar and measured in SP, S-VHS mode.

— : Unmeasurable or unnecessary to measure.

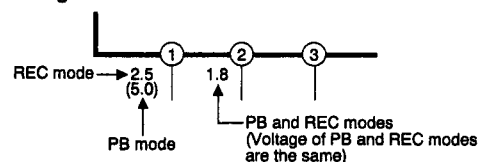
2) Audio circuits

REC : 1kHz, -8 dBs sine wave signal in SP mode, Normal VHS mode.

PB : REC then playback it.

4) Indication on schematic diagram

Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits

REC : Supplied color bar signal and measured in SP, S-VHS mode.

PB : Played back alignment tape MH-2H of color bar and measured in SP, S-VHS mode.

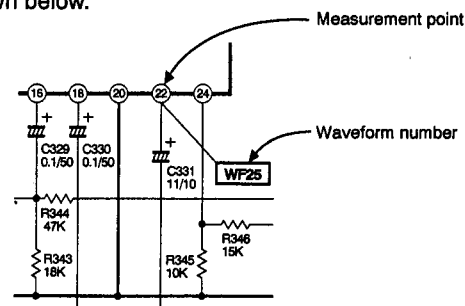
2) Audio circuits

REC : 1kHz, -8 dBs sine wave signal in SP mode, normal VHS mode.

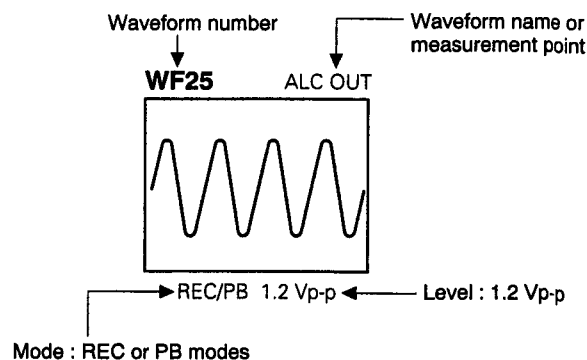
PB : REC then playback it.

3) Indication on schematic diagram

Waveform indications on the schematic diagram are as shown below.



4) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

-  Playback signal path
-  Playback and recording signal path
-  Recording signal path (including E-E signal path)
-  Capstan servo path
-  Drum servo path

CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) B side :
Parts on the foil side view from foil face (pattern face) are indicated.
- 2) A side :
Parts on the component side view from component face are (parts face) indicated.

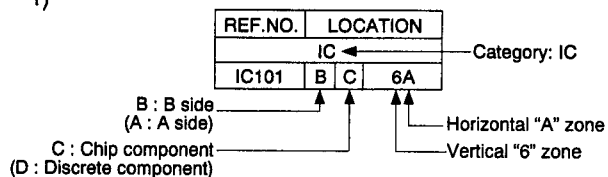
2. Pattern color

- 1) B side :
Pattern of the foil side shows black.
- 2) A side :
Pattern of the component side shows green.

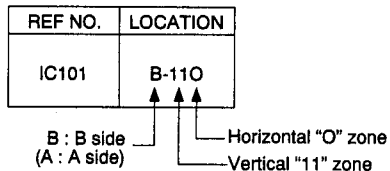
3. Parts location guides

Parts location are indicated by guide scale on the circuit board.

1)



2)



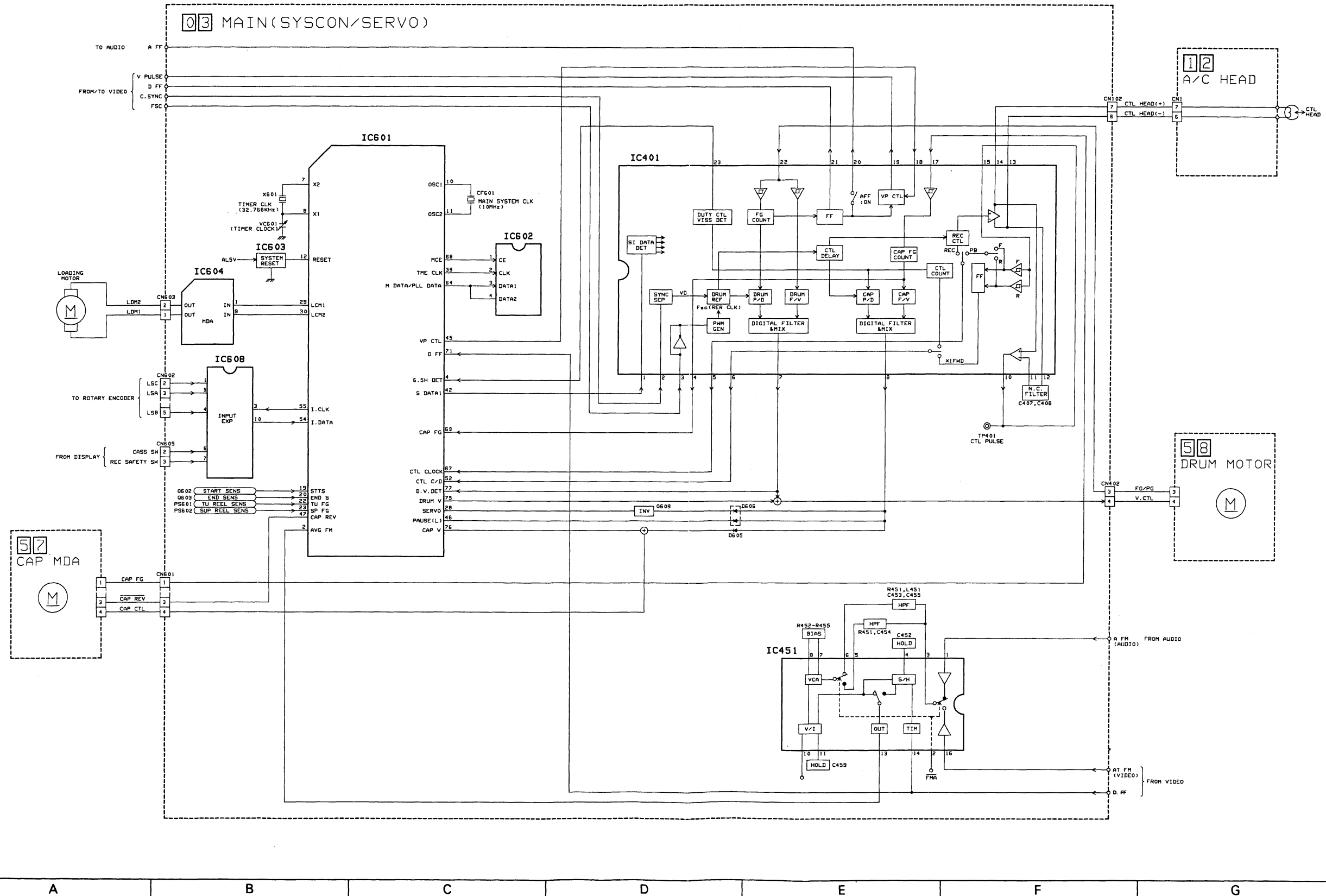
Note:

- For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001 issued by consumer video division.

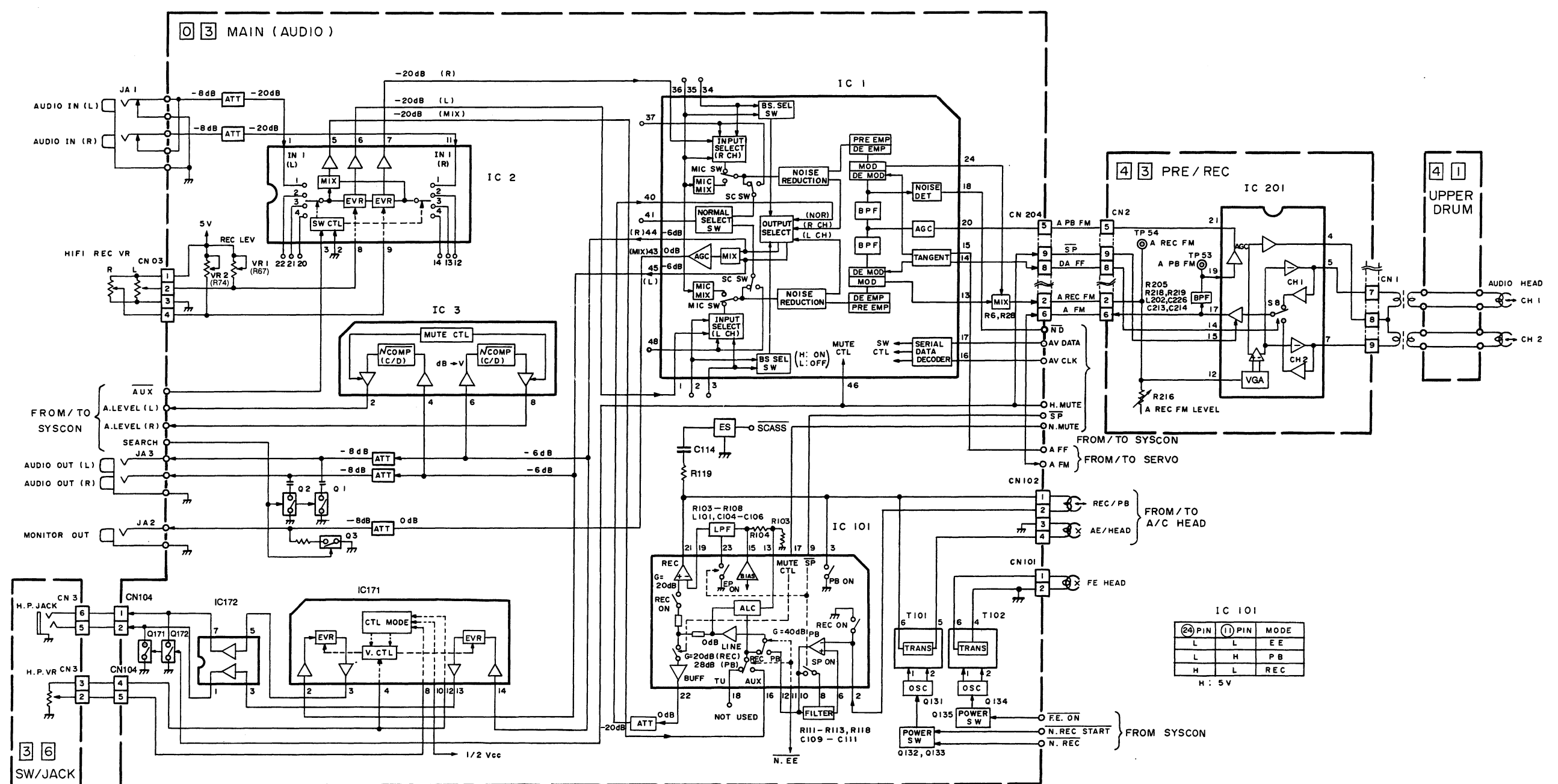
5



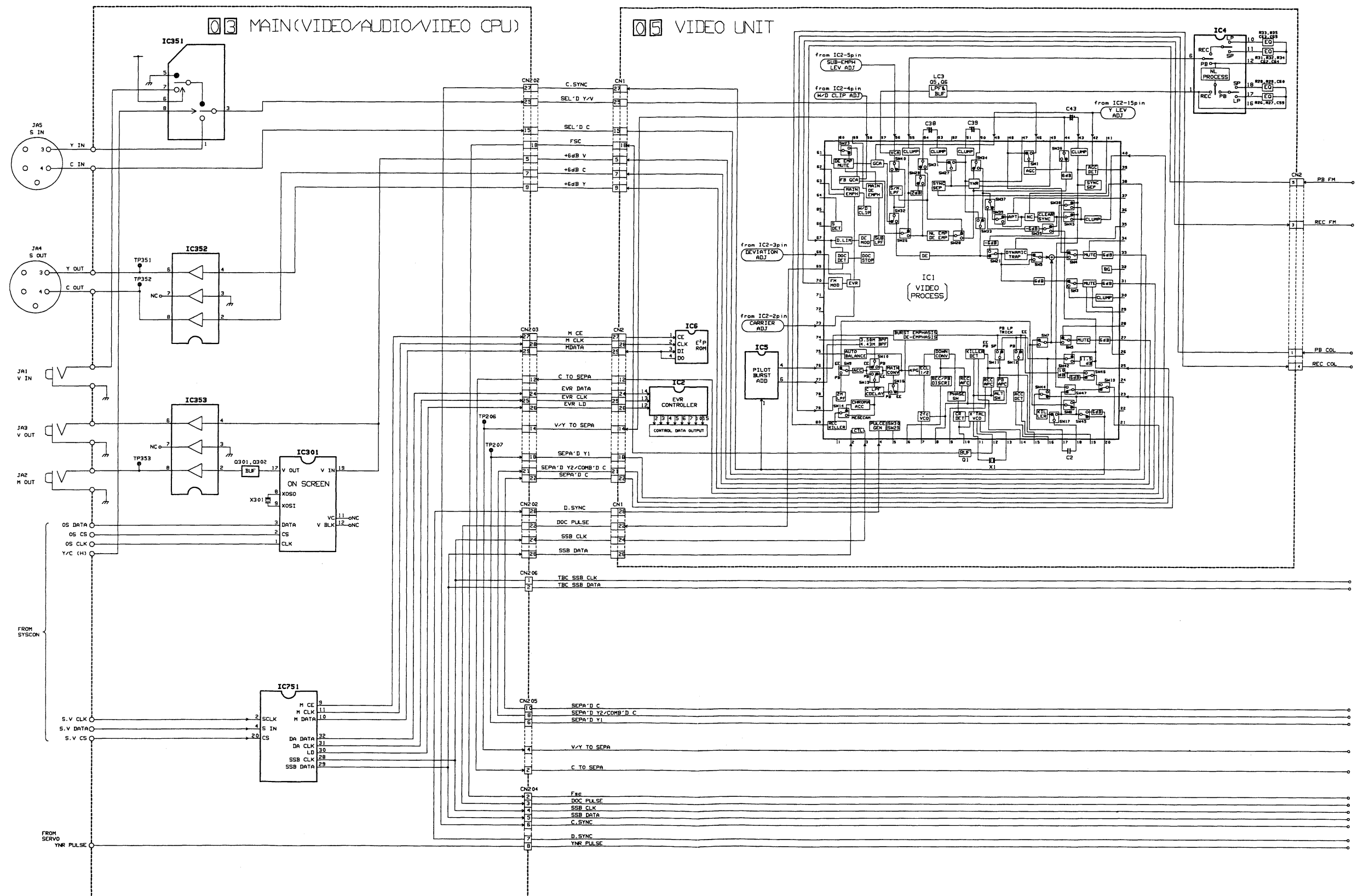
4.3 SYSCON/SERVO BLOCK DIAGRAM

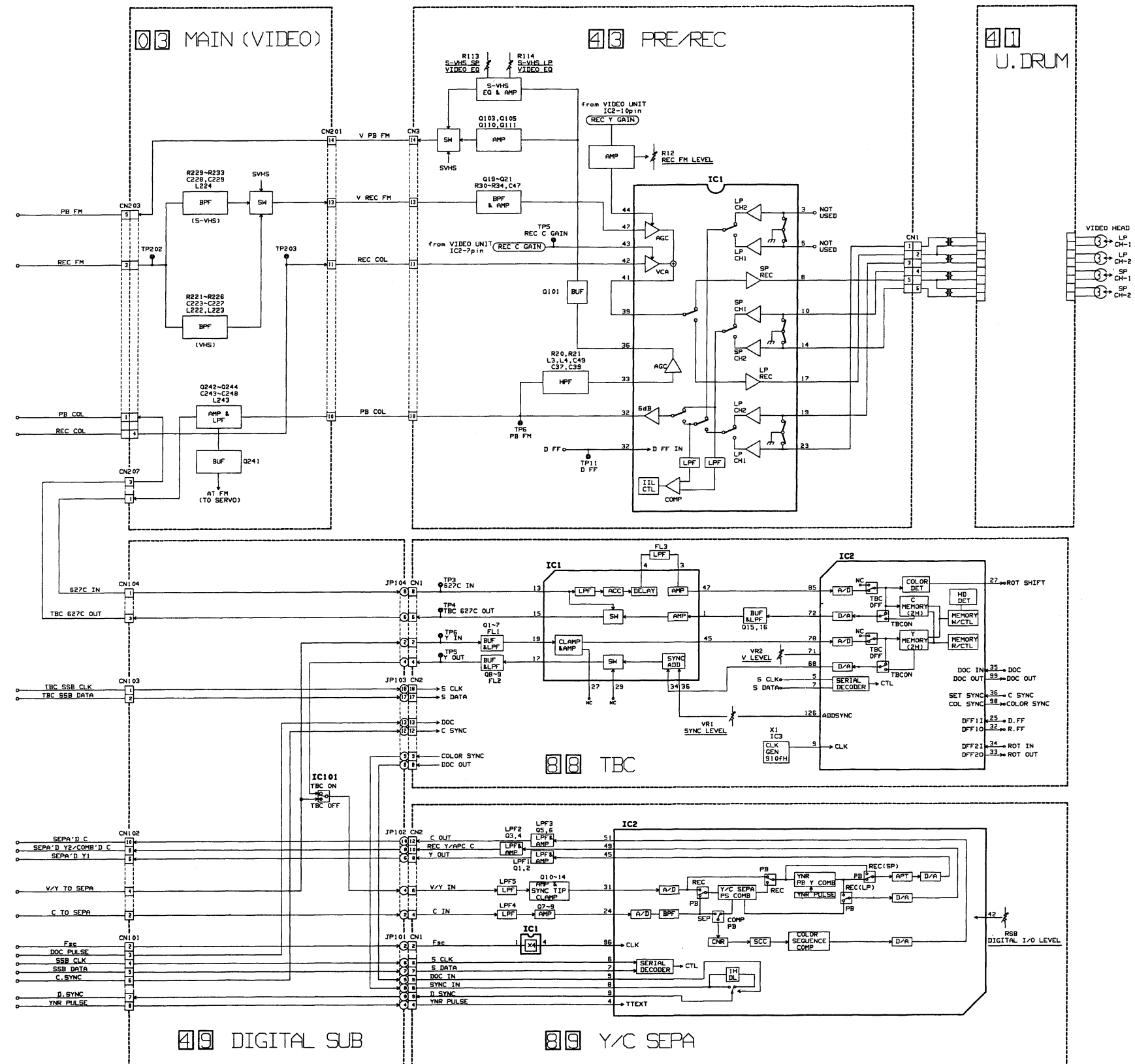


4.4 AUDIO BLOCK DIAGRAM



4.5 VIDEO BLOCK DIAGRAM





A

B

C

D

E

F

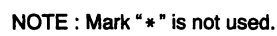
G

H

4-7

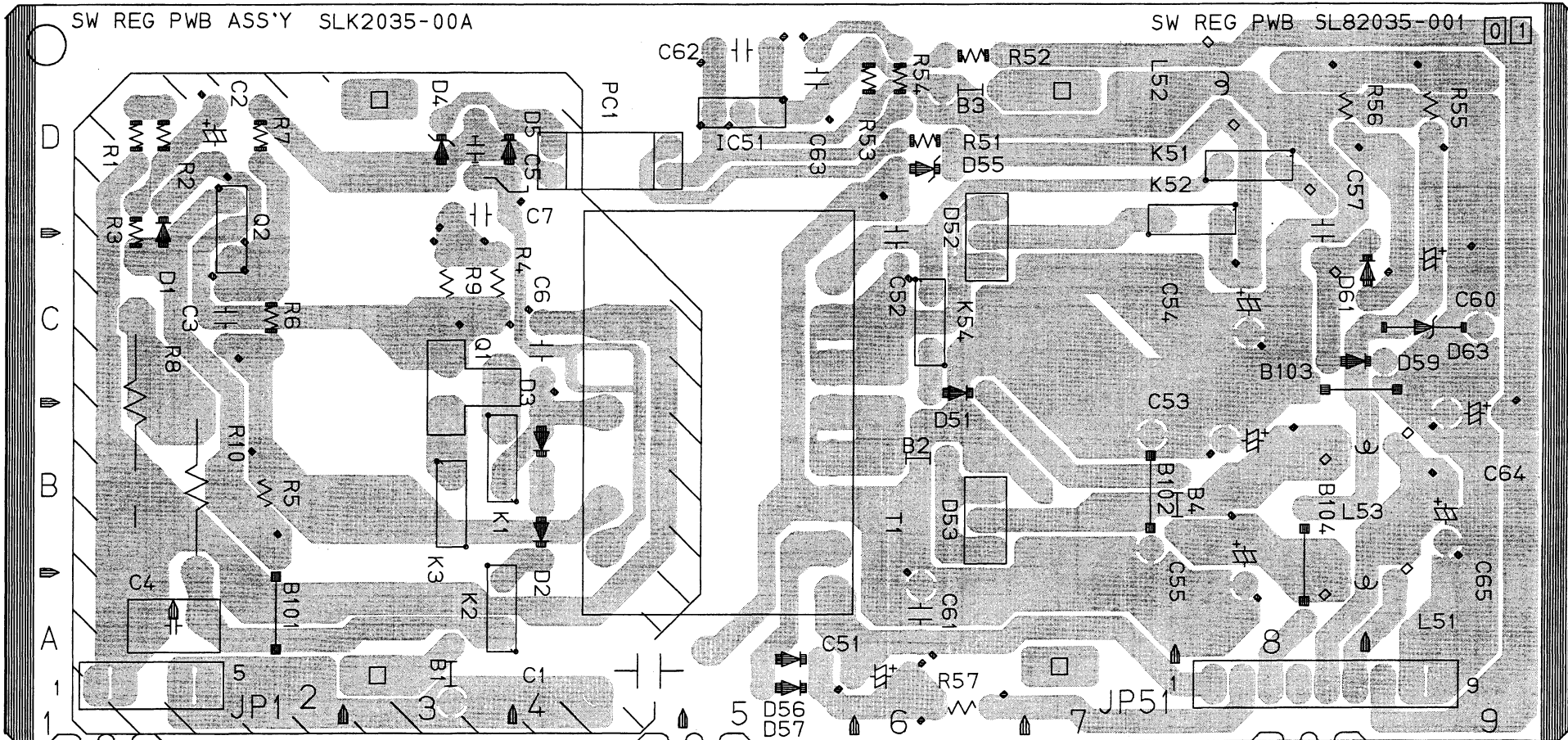
4-7

5
4
3
2
1



4.7 SWITCHING REGULATOR CIRCUIT BOARD

— B side —



COMPONENT PARTS LOCATION GUIDE <for SW REG>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
IC51	5D	R2	2D	C5	3D	B2	6B
		R3	1C	C6	4B	B3	6D
Q1	3C	R4	3C	C7	3C	B4	7B
Q2	2C	R5	2B	C51	6A	B101	2A
		R6	2C	C52	6C	B102	7B
D1	2C	R7	2D	C53	8B	B103	9B
D2	4A	R8	1B	C54	8C	B104	8A
D3	4B	R9	3C	C55	8B		
D4	3D	R10	2A	C57	8C	JP1	1A
D5	4D	R51	6D	C60	9C	JP51	8A
D51	6B	R52	6D	C61	6A		
D52	6C	R53	6D	C62	5D	K1	3B
D53	6B	R54	6D	C63	5D	K2	3A
D55	6D	R55	9D	C64	9B	K3	3B
D56	5A	R56	8D	C65	9B	K51	8D
D57	5A	R57	6A			K52	7C
D59	8C			L51	8A	K54	6C
D61	8C	C1	5A	L52	8D		
D63	9C	C2	2D	L53	8B	PC1	4D
		C3	2C				
R1	1D	C4	2A	B1	3A	T1	5B

● ADDRESS TABLE OF BOARD PARTS

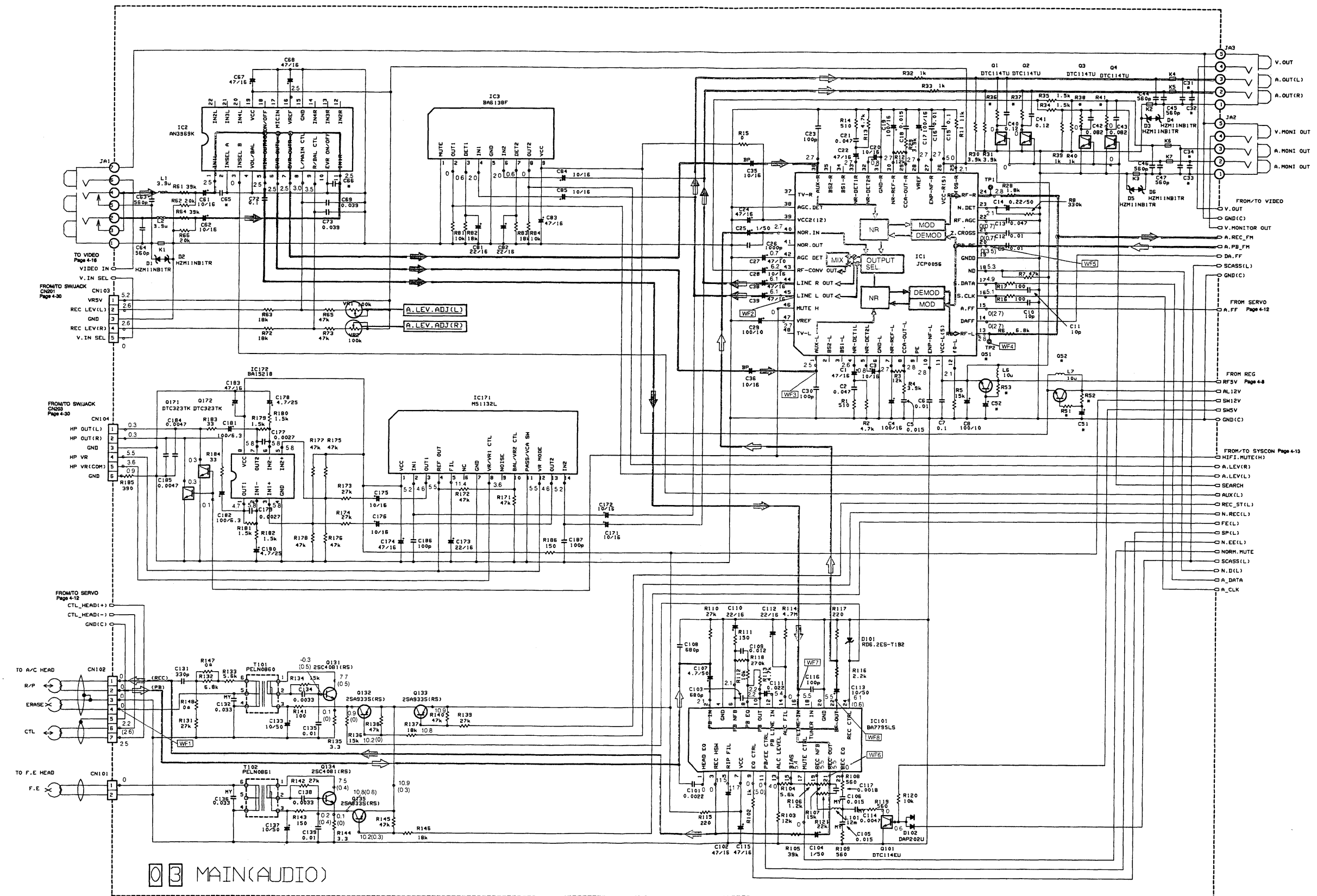
Each address may have an address error by one interval.

5D

Y axis

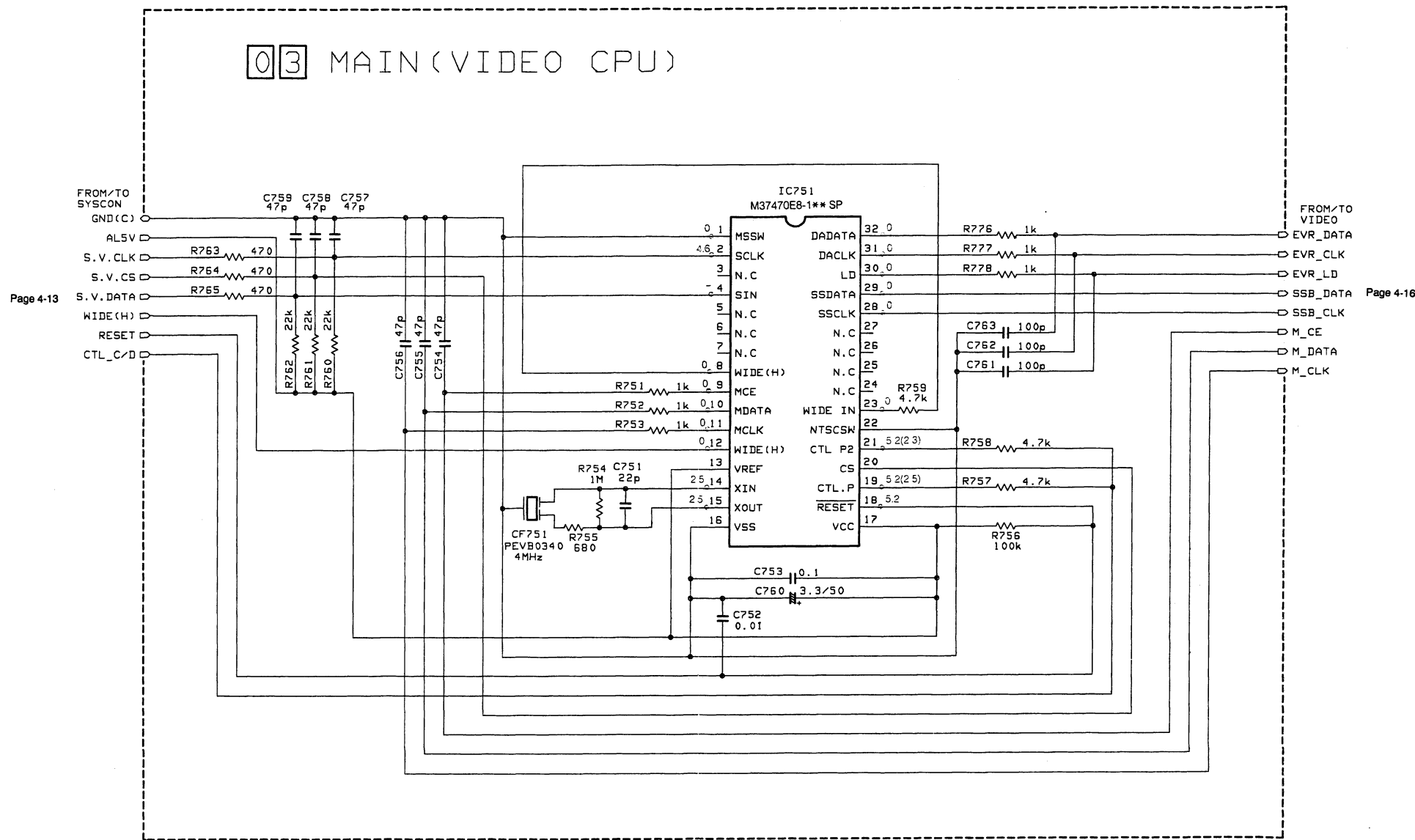
X axis

4.8 AUDIO SCHEMATIC DIAGRAM (MAIN BOARD)



NOTE : Mark "*" is not used.

4.9 VIDEO CPU SCHEMATIC DIAGRAM (MAIN BOARD)



A

B

C

D

E

F

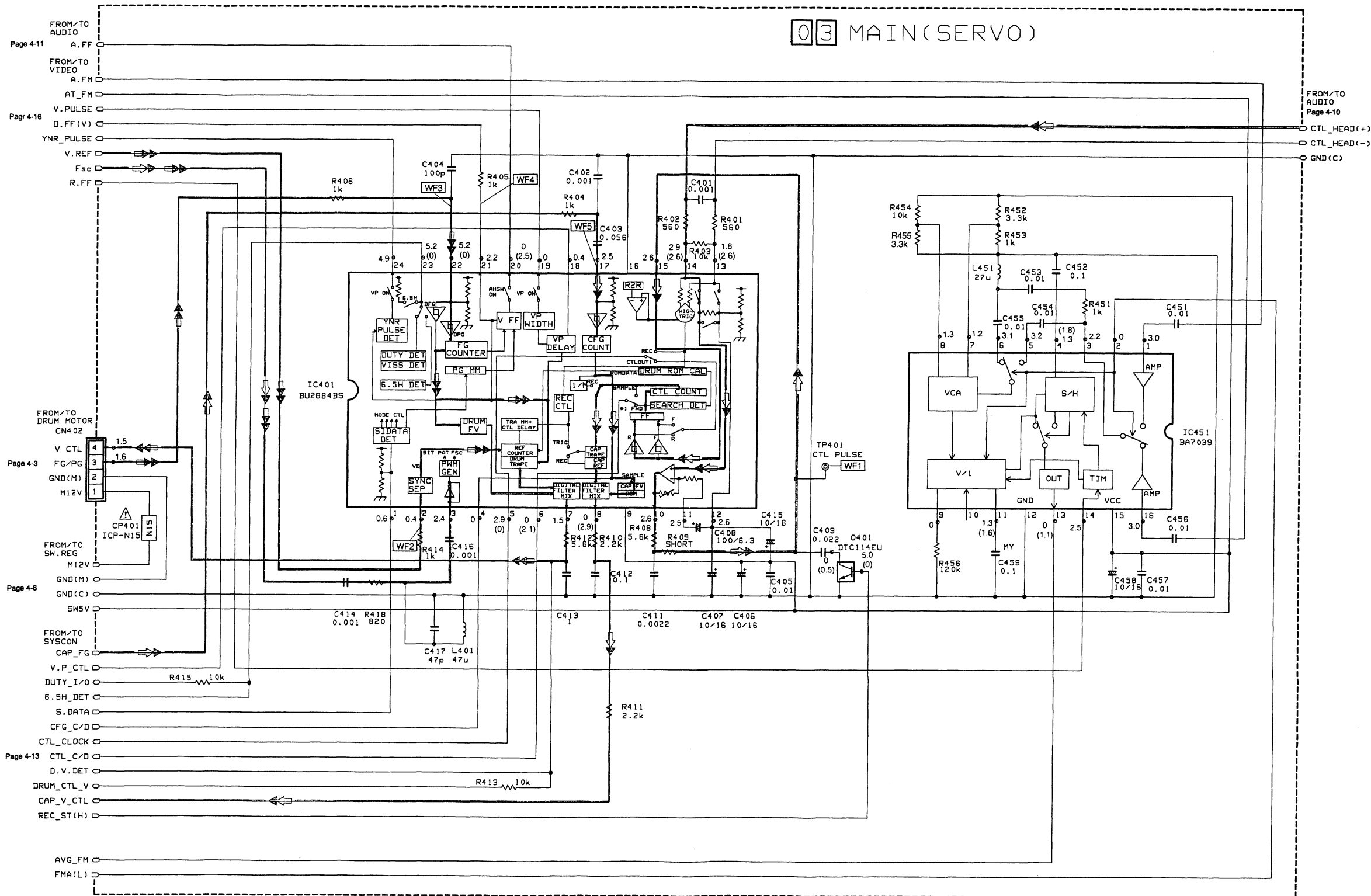
G

H

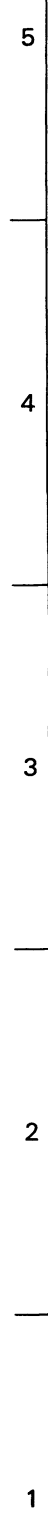
4-11

4-11

4.10 SERVO SCHEMATIC DIAGRAM (MAIN BOARD)



A vertical number line with tick marks labeled 1, 2, 3, 4, and 5 from bottom to top.



A vertical scale with five horizontal tick marks. The numbers 1, 2, 3, 4, and 5 are placed to the left of the tick marks, increasing from bottom to top.

4.12 DIGITAL SUB SCHEMATIC DIAGRAM

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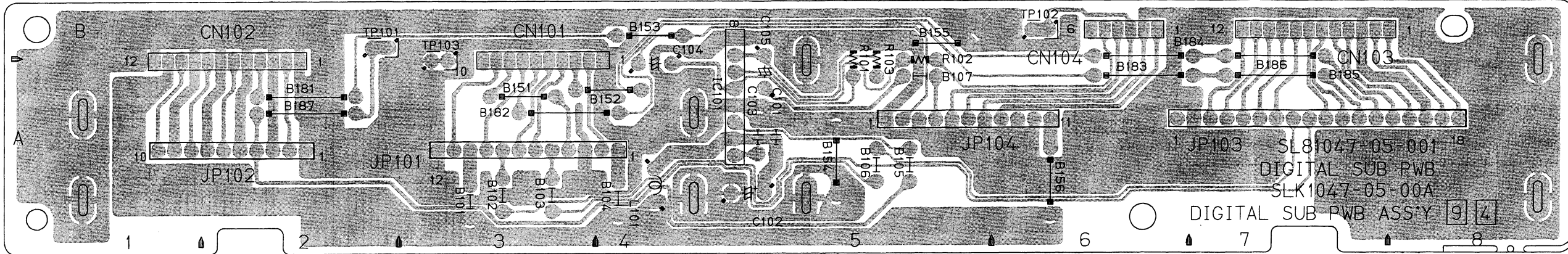
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Page 4-28

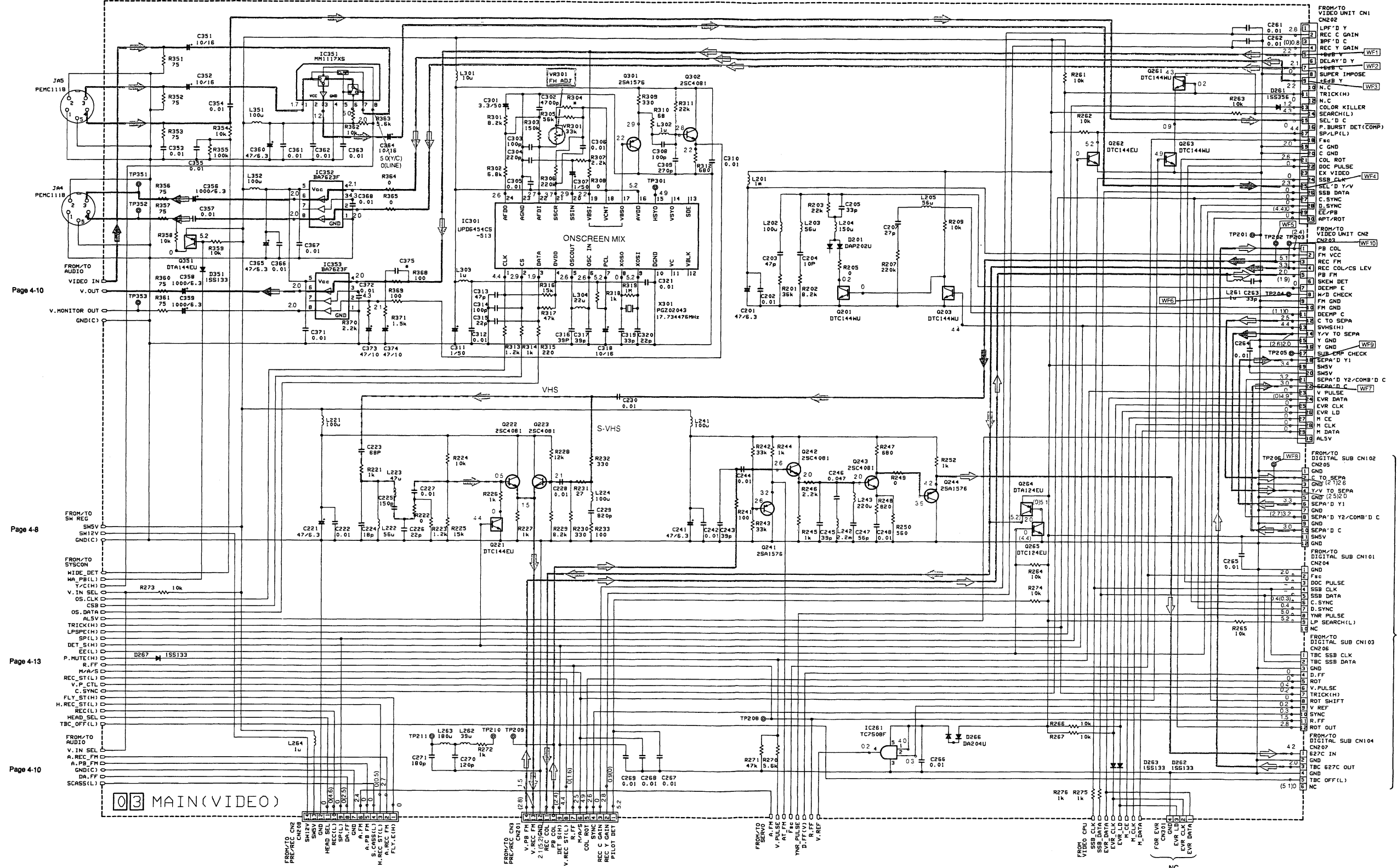
49 DIGITAL SUB

4.13 DIGITAL SUB CIRCUIT BOARD

— B side —



4.14 VIDEO SCHEMATIC DIAGRAM (MAIN BOARD)



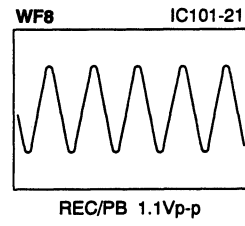
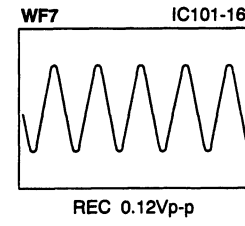
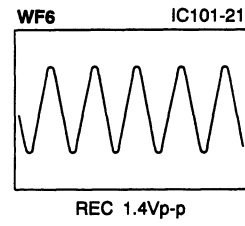
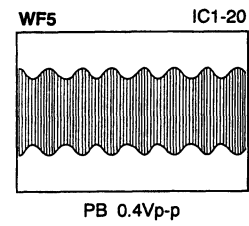
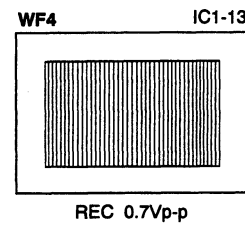
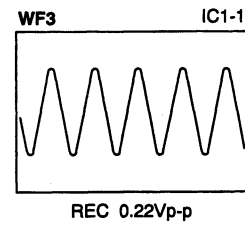
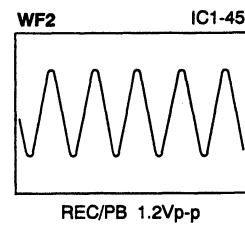
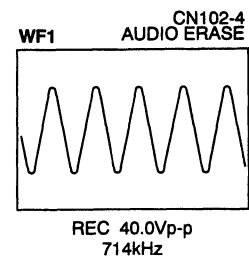
Page 4-20

Page 4-20

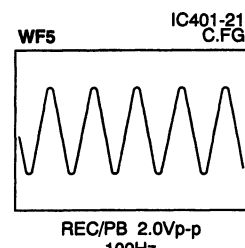
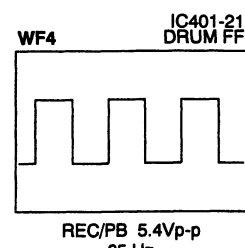
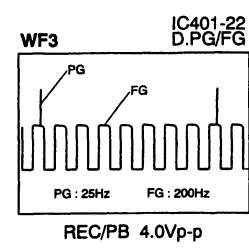
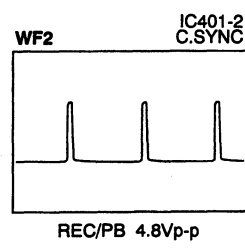
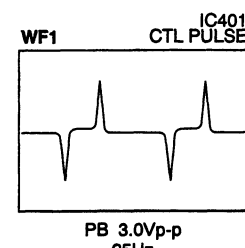
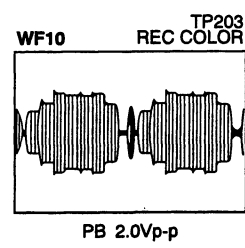
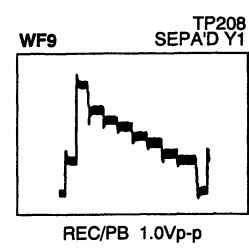
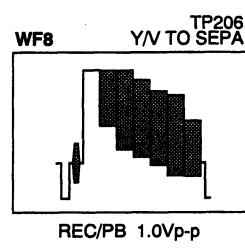
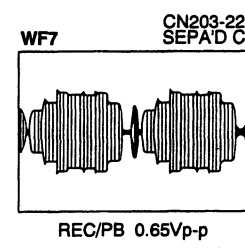
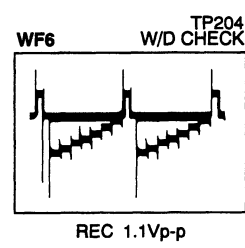
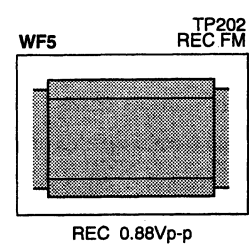
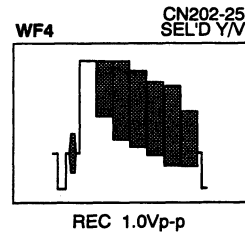
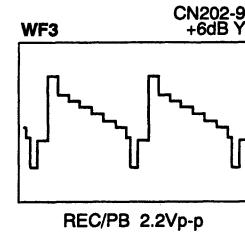
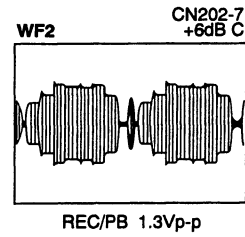
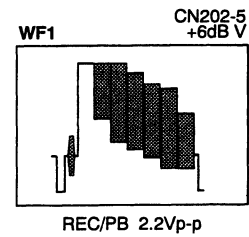
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WAVEFORMS

— AUDIO —



— VIDEO —

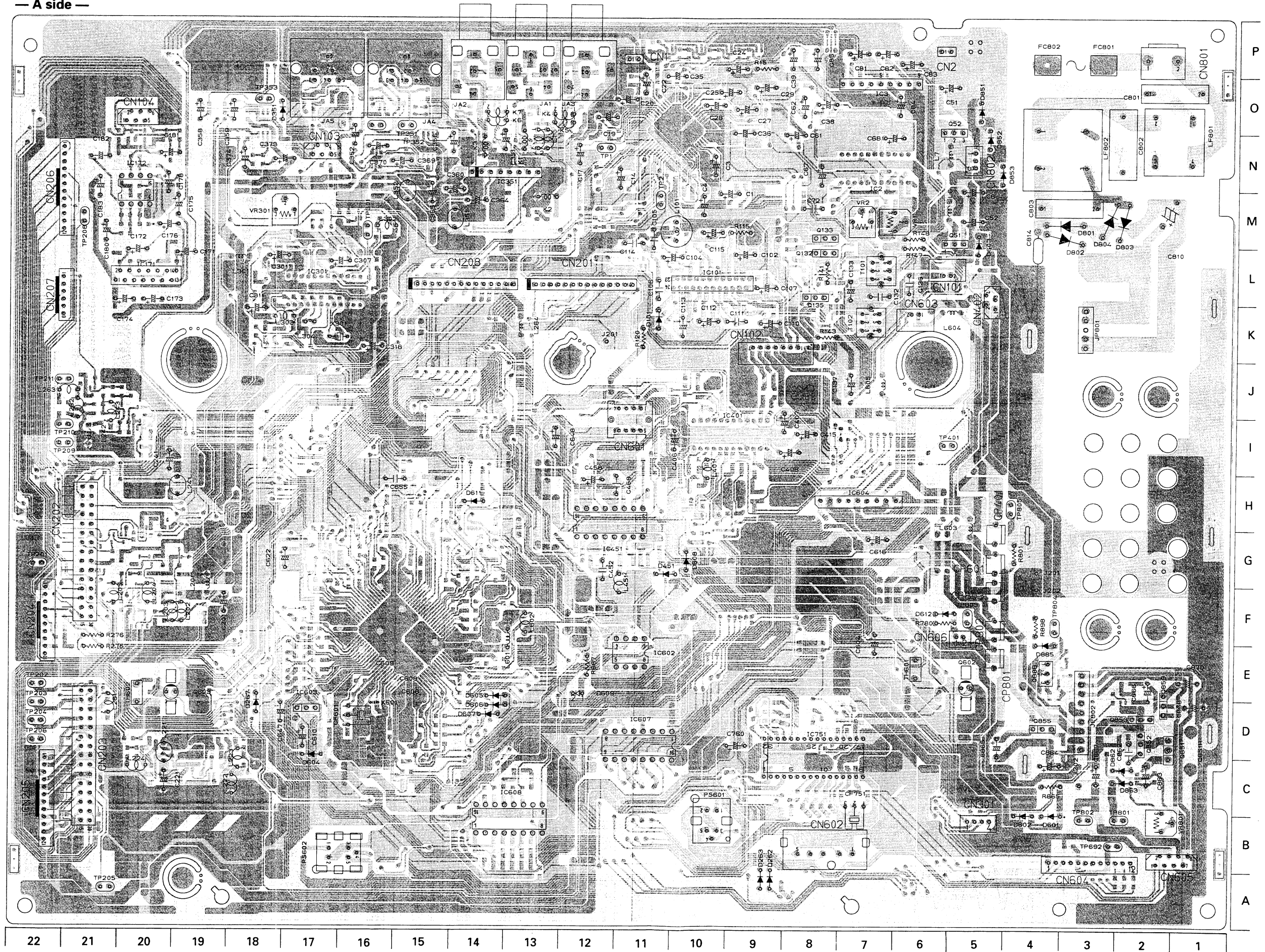


4.15 MAIN CIRCUIT BOARD

COMPONENT PARTS LOCATION GUIDE <for MAIN>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
IC1	B-11O	R7	B-12M	R241	B-20I	R823	B-17F	R863	B-4D	C179	B-20M	C455	B-11G	TP1	A-12N
IC2	A-8N	R8	B-11N	R242	B-20I	R824	B-17G	R864	B-4D	C180	A-21M	C456	B-12H	TP2	A-11M
IC3	A-8O	R11	B-12N	R243	B-20I	R825	B-17G	R865	A-4C	C181	A-20N	C457	B-12H	TP201	A-22G
IC101	A-9L	R12	B-12N	R244	B-20I	R826	B-17F	R866	B-2E	C182	A-21N	C458	A-12H	TP202	A-22E
IC171	A-21L	R13	B-11O	R245	B-20I	R827	B-16G	R867	B-2E	C183	A-21N	C459	A-12H	TP203	A-22D
IC172	A-21M	R14	B-11O	R246	B-20I	R828	B-16G	R868	B-2D	C184	B-20N	C801	B-16D	TP204	A-22D
IC261	B-20G	R15	A-9P	R247	B-20J	R829	B-16G	R869	B-4D	C185	B-20N	C802	B-16D	TP205	A-21A
IC301	A-18K	R16	B-12M	R248	B-21J	R830	B-16G	R870	B-3E	C186	B-21L	C803	B-7E	TP206	A-22D
IC351	A-14N	R17	B-15L	R249	B-21J	R831	B-16G	R871	B-4D	C187	B-20L	C804	A-7F	TP207	A-21M
IC352	B-18O	R28	B-15L	R250	B-21J	R832	B-15H	R872	A-4F	C201	A-19F	C805	A-16E	TP208	A-22I
IC353	A-10I	R29	B-12N	R251	B-21J	R833	B-16G	R873	B-15G	C202	B-19F	C806	B-14E	TP209	A-22I
IC401	A-12G	R30	B-8P	R252	B-21J	R834	B-16G	R874	B-15G	C203	B-19F	C807	B-14E	TP210	A-22I
IC451	B-15F	R31	B-8O	R253	B-20G	R835	B-15G	R875	B-15H	C204	B-20F	C808	A-16D	TP211	A-16M
IC602	A-11F	R32	B-8O	R254	B-21G	R836	B-15G	R876	B-15H	C205	B-20F	C809	A-17D	TP301	A-15O
IC603	A-17D	R33	B-8O	R255	B-20G	R837	B-15H	R877	B-15H	C206	B-20F	C810	B-17D	TP352	A-16O
IC604	A-8H	R34	B-11O	R256	B-21G	R838	B-15H	R878	B-15H	C207	B-20G	C811	B-17D	TP353	A-16O
IC607	A-11D	R35	B-11O	R257	B-21G	R839	B-15H	R879	B-15H	C208	B-21F	C812	B-17D	TP401	A-16O
IC608	A-14B	R36	B-10P	R258	B-21B	R840	B-15G	R880	B-15H	C209	A-20C	C813	B-12E	TP401	A-6I
IC751	A-9C	R37	B-10P	R259	B-21B	R841	B-15G			C210	A-20C	C814	B-12E	TP601	B-16D
		R38	B-11P	R260	B-22F	R842	B-14G			C211	A-20C	C815	B-12E	TP602	B-16C
		R39	B-11P	R261	B-22F	R843	B-14G			C212	A-20C	C816	B-12E	TP603	B-17G
		R40	B-10P	R262	B-22F	R844	B-14G			C213	A-20C	C817	B-12E	TP604	B-12F
		R41	B-9P	R263	B-21G	R845	B-14G			C214	A-20C	C818	B-12E	TP605	B-17D
		R42	B-9P	R264	B-21G	R846	B-14G			C215	A-20C	C819	B-12E	TP606	B-17D
		R43	B-9P	R265	B-21G	R847	B-14G			C216	A-20C	C820	B-12E	TP607	B-17D
		R44	B-9P	R266	B-21G	R848	B-14G			C217	A-20C	C821	B-12E	TP608	B-17D
		R45	B-9P	R267	B-21G	R849	B-14G			C218	A-20C	C822	B-12E	TP609	B-17D
		R46	B-9P	R268	B-21G	R850	B-14G			C219	A-20C	C823	B-12E	TP610	B-17D
		R47	B-9P	R269	B-21G	R851	B-14G			C220	A-20C	C824	B-12E	TP611	B-17D
		R48	B-9P	R270	B-21G	R852	B-14G			C221	A-20C	C825	B-12E	TP612	B-17D
		R49	B-9P	R271	B-21G	R853	B-14G			C222	A-20C	C826	B-12E	TP613	B-17D
		R50	B-9P	R272	B-21G	R854	B-14G			C223	A-20C	C827	B-12E	TP614	B-17D
		R51	B-9P	R273	B-21G	R855	B-14G			C224	A-20C	C828	B-12E	TP615	B-17D
		R52	B-9P	R274	B-21G	R856	B-14G			C225	A-20C	C829	B-12E	TP616	B-17D
		R53	B-9P	R275	B-21G	R857	B-14G			C226	A-20C	C830	B-12E	TP617	B-17D
		R54	B-9P	R276	B-21G	R858	B-14G			C227	A-20C	C831	B-12E	TP618	B-17D
		R55	B-9P	R277	B-21G	R859	B-14G			C228	A-20C	C832	B-12E	TP619	B-17D
		R56	B-9P	R278	B-21G	R860	B-14G			C229	A-20C	C833	B-12E	TP620	B-17D
		R57	B-9P	R279	B-21G	R861	B-14G			C230	A-20C	C834	B-12E	TP621	B-17D
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		R62	B-9P	R284	B-21G	R866	B-14G			C235	A-20C	C839	B-12E	TP626	B-17D
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		R68	B-9P	R290	B-21G	R872	B-14G			C241	A-20C	C845	B-12E	TP632	B-17D
		R69	B-9P	R291	B-21G	R873	B-14G			C242	A-20C	C846	B-12E	TP633	B-17D
		R70	B-9P	R292	B-21G	R874	B-14G			C243	A-20C	C847	B-12E	TP634	B-17D
		R71	B-9P	R293	B-21G	R875	B-14G			C244	A-20C	C848	B-12E	TP635	B-17D
		R72	B-9P	R294	B-21G	R876	B-14G			C245	A-20C	C849	B-12E	TP636	B-17D
		R73	B-9P	R295	B-21G	R877	B-14G			C246	A-20C	C850	B-12E	TP637	B-17D
		R74	B-9P	R296	B-21G	R878	B-14G			C247	A-20C	C851	B-12E	TP638	B-17D
		R75	B-9P	R297	B-21G	R879	B-14G			C248	A-20C	C852	B-12E	TP639	B-17D
		R76	B-9P	R298	B-21G	R880	B-14G			C249	A-20C	C853	B-12E	TP640	B-17D
		R77	B-9P	R299	B-21G	R881	B-14G			C250	A-20C	C854	B-12E	TP641	B-17D
		R78	B-9P	R300	B-21G	R882	B-14G			C251	A-20C	C855	B-12E	TP642	B-17D
		R79	B-9P	R301	B-21G	R883	B-14G			C252	A-20C	C856	B-12E	TP643	B-17D
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		R83	B-9P	R305	B-21G	R887	B-14G			C256	A-20C	C860	B-12E	TP647	B-17D
		R84	B-9P	R306	B-21G	R888	B-14G			C257	A-20C	C861	B-12E	TP648	B-17D
		R85	B-9P	R307	B-21G	R889	B-14G			C258	A-20C	C862	B-12E	TP649	B-17D
		R86	B-9P	R308	B-21G	R890	B-14G			C259	A-20C	C863	B-12E	TP650	B-17D
		R87	B-9P	R309	B-21G	R891	B-14G			C260	A-20C	C864	B-12E	TP651	B-17D
		R88	B-9P	R310	B-21G	R892	B-14G			C261	A-20C	C865	B-12E	TP652	B-17D
		R89	B-9P	R311	B-21G	R893	B-14G			C262	A-20C	C866	B-12E	TP653	B-17D
		R90	B-9P	R312	B-21G	R894	B-14G			C263	A-20C	C867	B-12E	TP654	B-17D
		R91	B-9P	R313	B-21G	R895	B-14G			C264	A-20C	C868	B-12E	TP655	B-17D
		R92	B-9P	R314	B-21G	R896	B-14G			C265	A-20C	C869	B-12E	TP656	B-17D
		R93	B-9P	R315	B-21G	R897	B-14G			C266	A-20C	C870	B-12E	TP657	B

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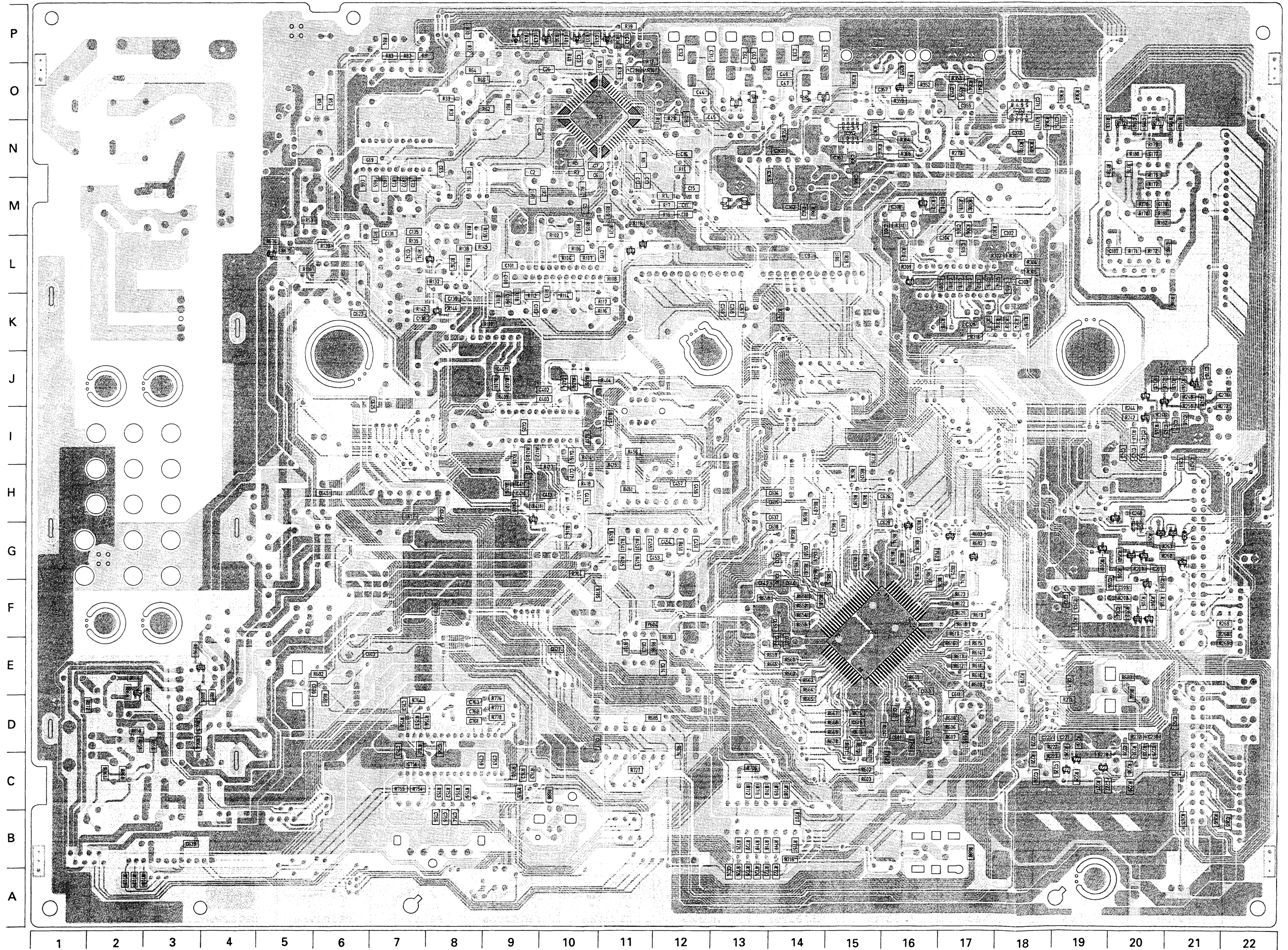


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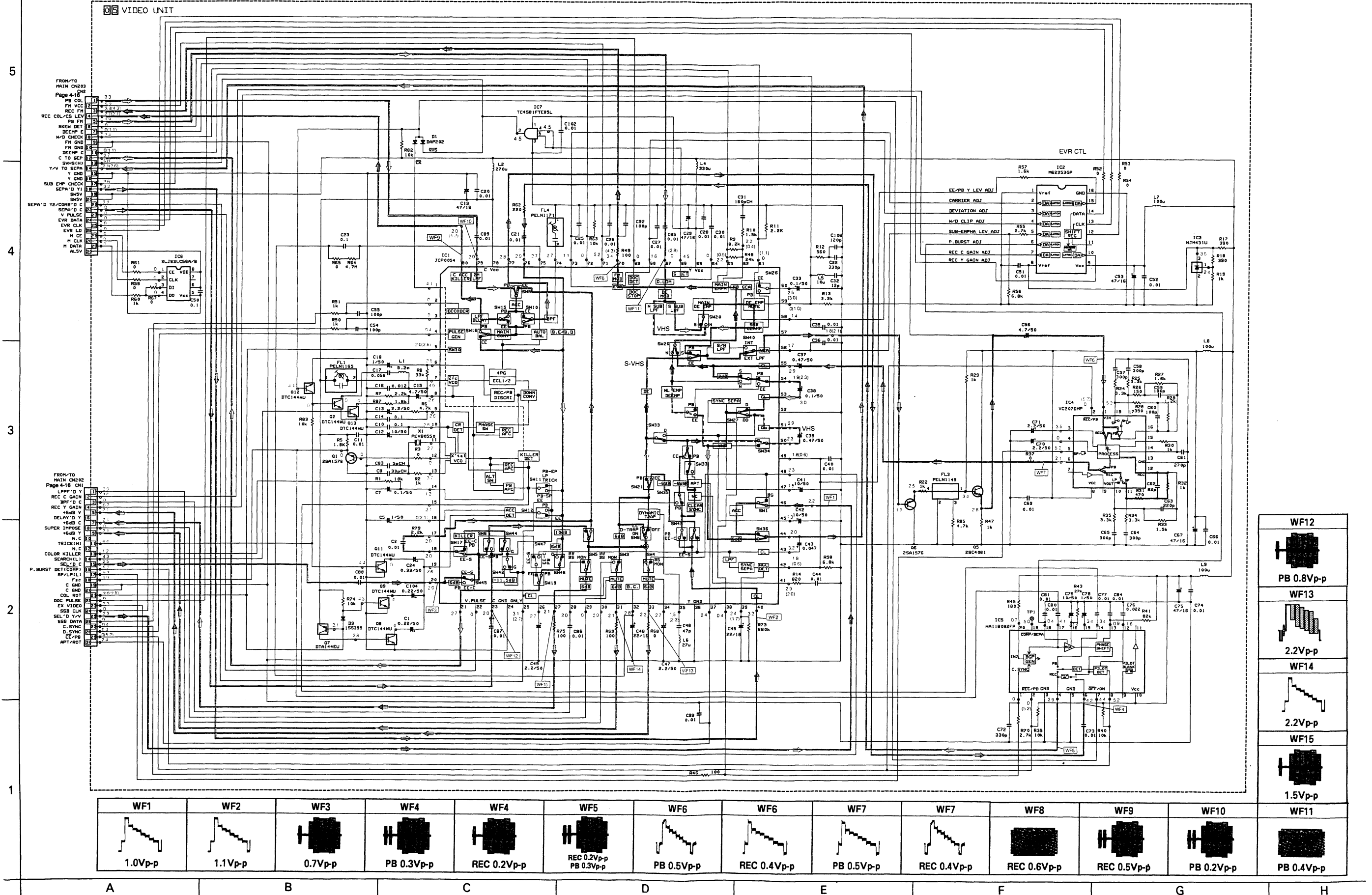
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— B side —

SL81043-002

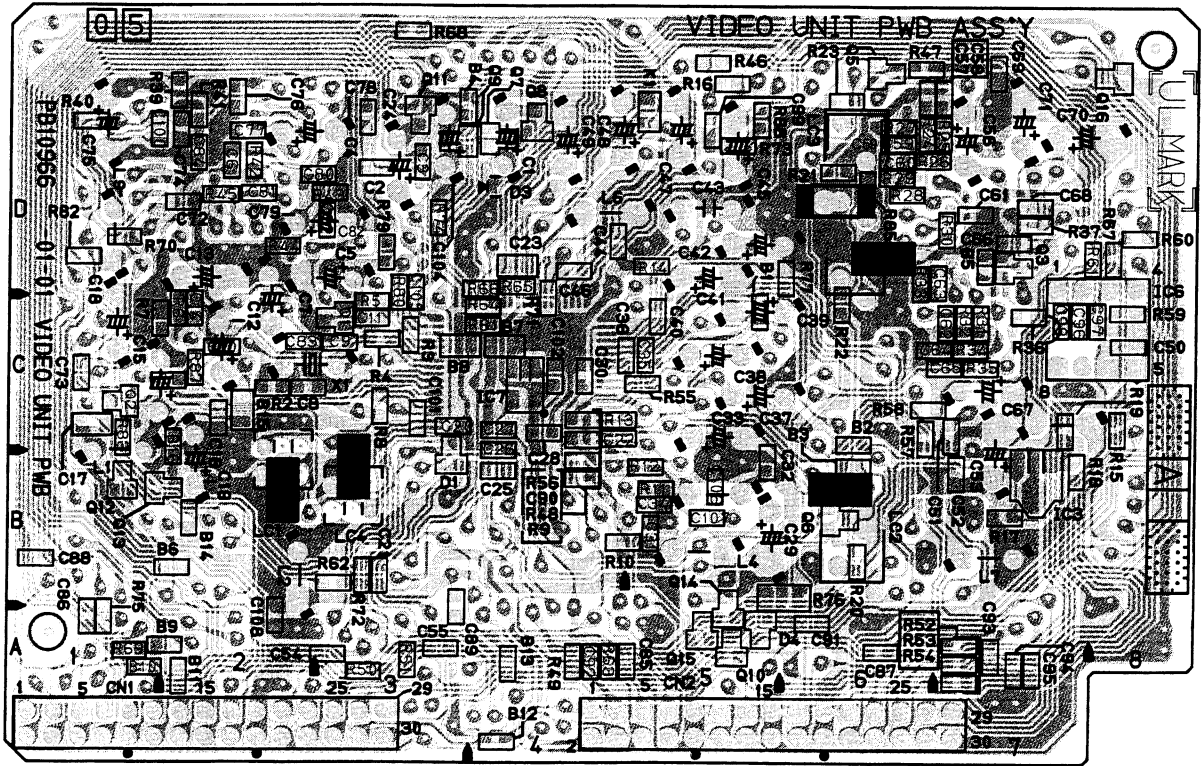


4.16 VIDEO UNIT SCHEMATIC DIAGRAM

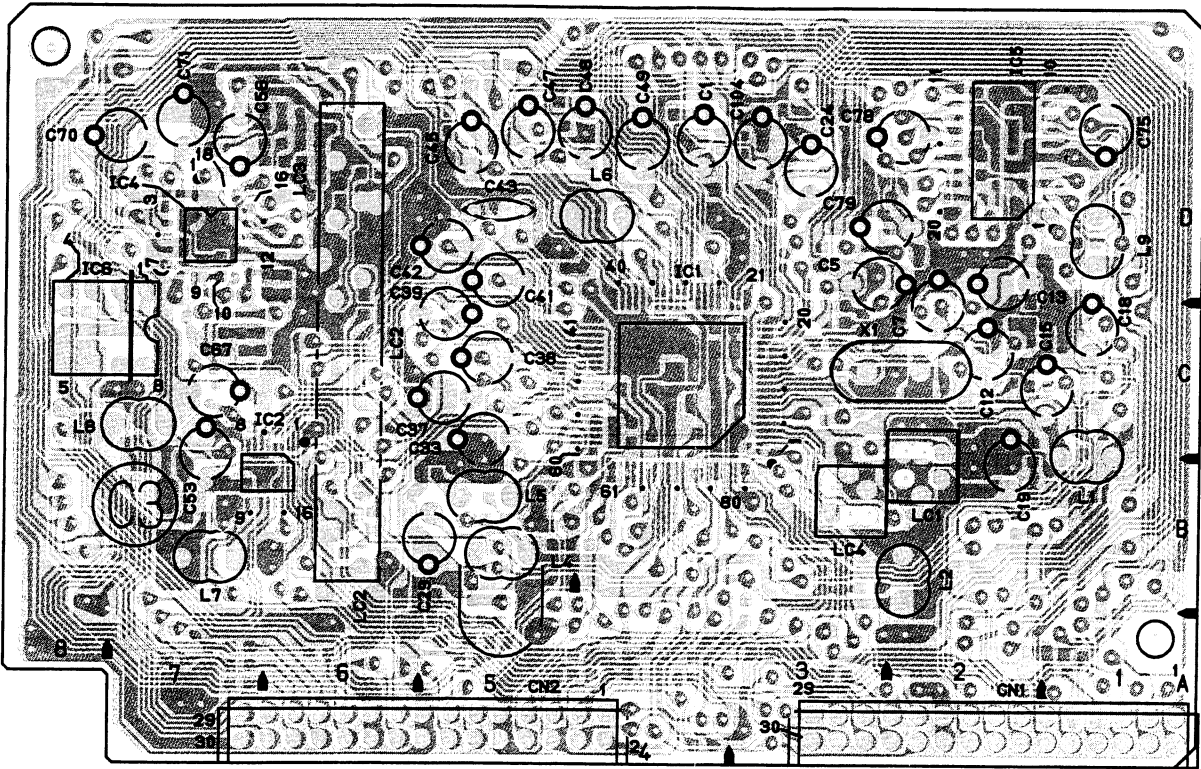


4.17 VIDEO UNIT CIRCUIT BOARD

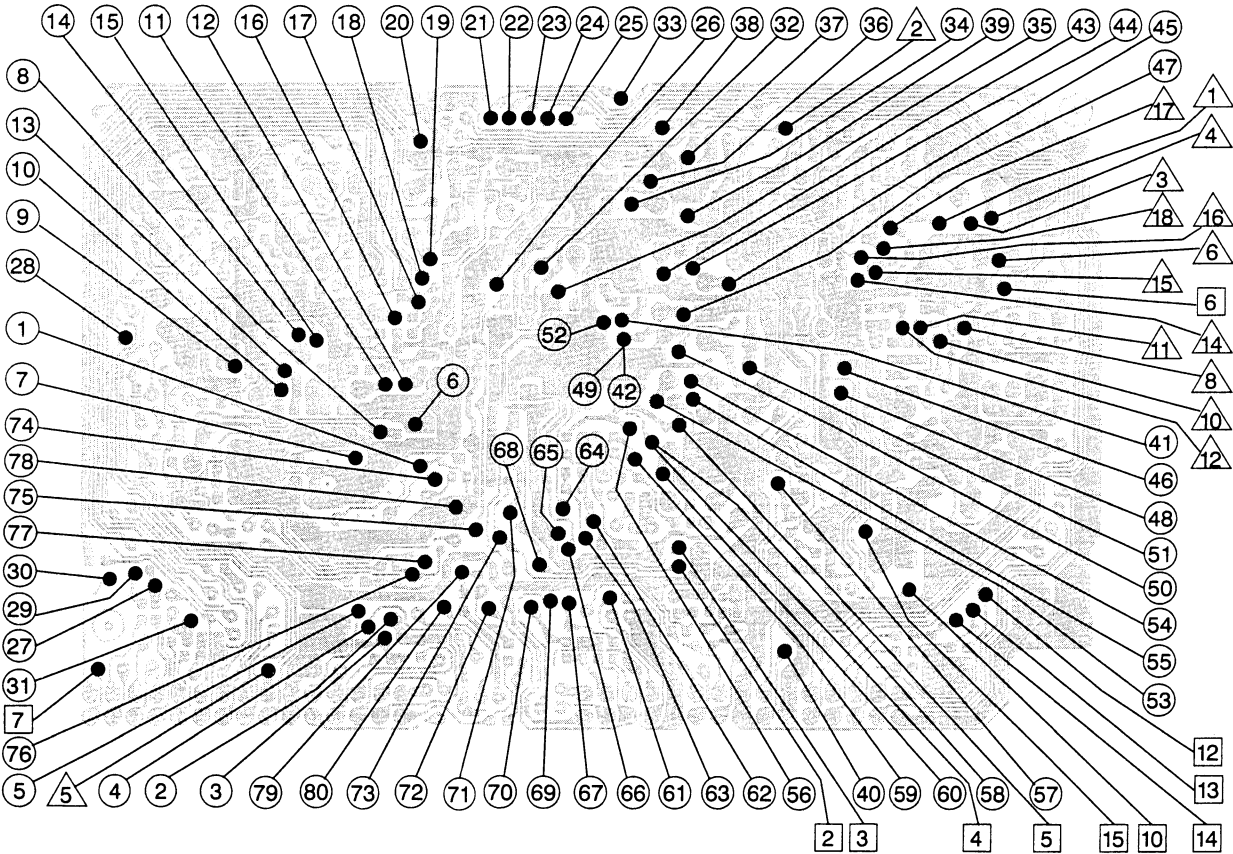
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— A side —



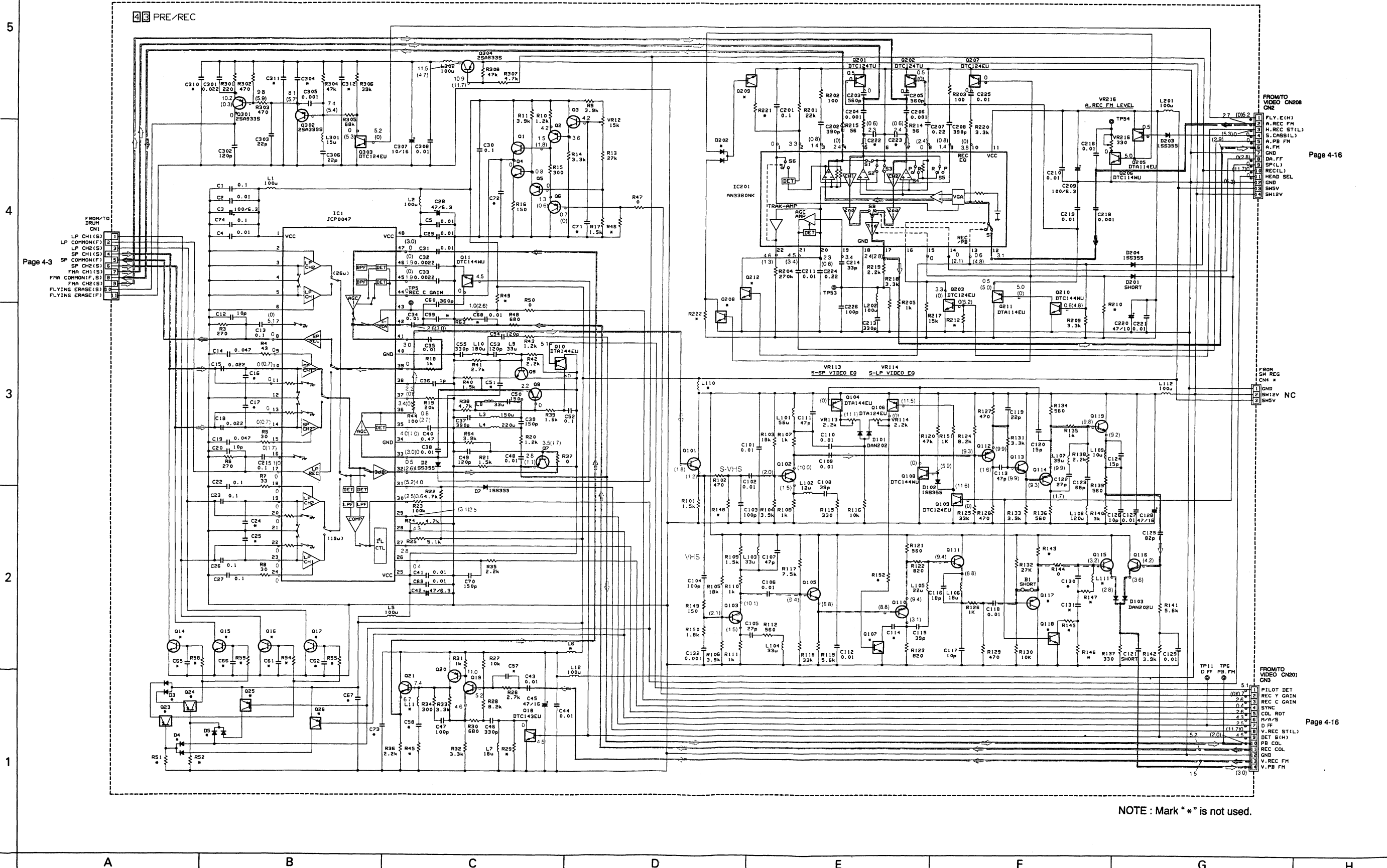
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COMPONENT PARTS LOCATION GUIDE <VIDEO UNIT>

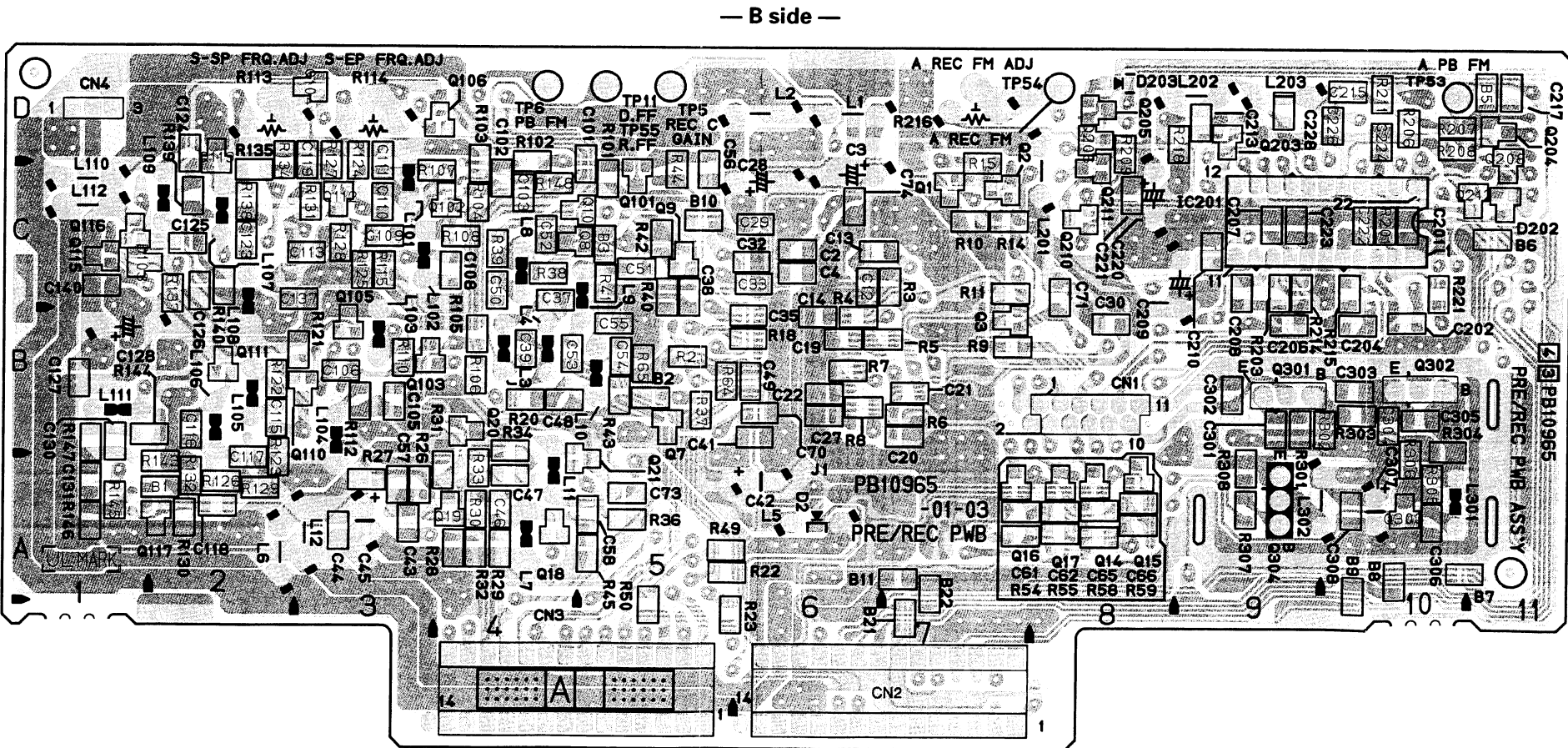
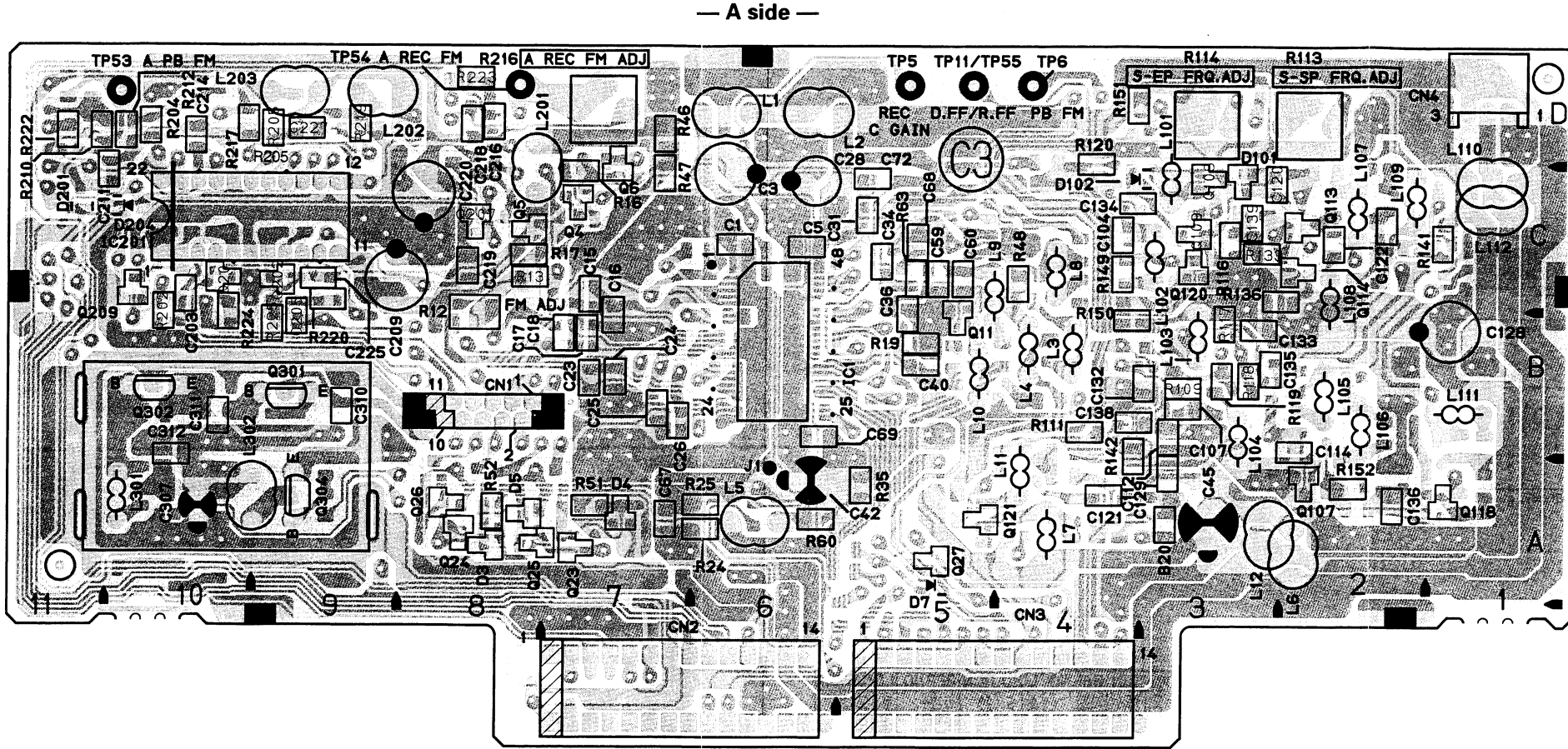
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CAPACITOR				C36	B	C	4C	C73	B	C	1C <th colspan="4">CONNECTOR</th> <th>Q11</th> <td>B</td> <td>C</td> <td>3E<th>R30</th><td>B</td><td>C</td><td>7D<th>R68</th><td>B</td><td>B</td><td>C</td><td>3E</td></td></td>	CONNECTOR				Q11	B	C	3E <th>R30</th> <td>B</td> <td>C</td> <td>7D<th>R68</th><td>B</td><td>B</td><td>C</td><td>3E</td></td>	R30	B	C	7D <th>R68</th> <td>B</td> <td>B</td> <td>C</td> <td>3E</td>	R68	B	B	C	3E				
C1	A	D	4D	C37	A	D	5C	C74	B	C	2E	CN1	A	D	1A	Q12	B	C	1B	R31	B	C	7C	R69	B	B	C	1A				
C2	B	C	3D	C38	A	D	5C	C75	A	D	1E	CN2	A	D	4A	Q13	B	C	2B	R32	B	C	7C	R70	B	B	C	1D				
C3	B	C	3D	C39	A	D	6C	C76	B	C	2E	DIODE				Q14	B	C	5B	R33	B	C	6D	R71	B	B	C	4D				
C4	B	C	3E	C40	B	C	5C	C77	B	C	2E					Q15	B	C	5A	R34	B	C	7C	R72	B	B	C	3B				
C5	A	D	3D	C41	A	D	5D	C78	A	D	2E	D1	B	C	3C	Q16	B	C	8E	R35	B	C	7C	R73	B	B	C	5E				
C6	B	C	2D	C42	A	D	5D	C79	A	D	2D	D3	B	C	4D	RESISTOR				R36	B	C	7C	R74	B	B	C	3D				
C7	A	D	2C	C43	A	D	5D	C80	B	C	2D	D4	B	C	5A					R37	B	C	7D	R75	B	B	C	1A				
C8	B	C	2C	C44	B	C	4D	C81	B	C	2D	IC				R1	B	C	2C	R39	B	C	2E	R76	B	B	C	6B				
C9	B	C	3C	C45	A	D	5D	C82	B	C	3D	IC1	A	C	4C	R2	B	C	2C	R40	B	C	1E	R77	B	B	C	6D				
C10	B	C	2C	C46	B	C	4D	C83	B	C	2C	IC2	A	C	6B	R3	B	C	3C	R41	B	C	2E	R79	B	B	C	3D				
C11	B	B	C	C47	A	D	5D	C84	B	B	C	2D	IC3	B	C	7B	R4	B	C	3C	R42	B	B	C	2D	R80	B	B	C	3D		
C12	A	D	2C	C48	A	D	4D	C85	B	B	C	5A	IC4	A	C	7D	R5	B	C	3C	R43	B	B	C	3D	R81	B	B	C	4C		
C13	A	D	2D	C49	A	D	4D	C86	B	B	C	1A	IC5	A	C	2E	R6	B	B	C	2C	R44	B	B	C	2D	R82	B	B	C	1D	
C14	B	C	2C	C50	B	B	C	8C	C87	B	B	C	6A	IC6	A	D	7E	R7	B	B	C	1C	R45	B	B	C	2D	R83	B	B	C	1C
C15	A	D	1C	C51	B	B	C	7C	C88	B	B	C	1B	IC7	B	C	4C	R8	B	B	C	3C	R46	B	B	C	5E	R85	B	B	C	6D
C16	B	B	C	C52	B	B	C	7B	C89	B	B	C	3B	COIL				R9	B	B	C	4B	R47	B	B	C	6E	R86	B	B	C	5E
C17	B	C	1C	C53	A	D	7B	C90	B	B	C	4C	L1	A	D	1C	R10	B	B	C	4B	R48	B	B	C	4B	R87	B	B	C	2C	
C18	A	D	1C	C54	B	B	C	3A	C91	B	B	C	6A	L2	A	D	2B	R11	B	B	C	5B	R49	B	B	C	4A	OTHERS				
C19	A	D	2B	C55	B	B	C	3A	C92	B	B	C	4A	L3	A	D	1C	R12	B	B	C	5B	R50	B	B	C	3A					
C20	B	B	C	C56	A	D	7E	C93	B	B	C	7A	L4	A	D	5B	R13	B	B	C	4C	R51	B	B	C	3A	K1	B	C	5E		
C21	B	B	C	C57	B	B	C	6E	C94	B	B	C	7A	L5	A	D	5B	R14	B	B	C	5D	R52	B	B	C	7A	LC1	A	D	2C	
C22	B	B	C	C58	B	B	C	7E	C95	B	B	C	7A	L6	A	D	5D	R15	B	B	C	8E	R53	B	B	C	7A	LC2	A	D	6B	
C23	B	B	C	C59	B	B	C	6E	C96	B	B	C	7C	L7	A	D	7B	R16	B	B	C	5C	R54	B	B	C	7A	LC3	A	D	6E	
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C26	B	B	C	C62	B	B	C	7C	C99	B	B	C	5E	TRANSISTOR				R19	B	B	C	7C	R57	B	B	C	6C	X1	B	D	3C	
C27	B	B	C	C63	B	B	C	7D	C100	B	B	C	1E	Q1	B	C	3C	R20	B	B	C	6B	R58	B	B	C	6C					
C28	B	B	C	C64	B	B	C	6C	C101	B	B	C	3C	Q2	B	C	1C	R21	B	B	C	6D	R59	B	B	C	8C					
C29	A	D	5B	C65	B	B	C	7C	C102	B	B	C	4C	Q3	B	B	C	7D	R22	B	B	C	6C	R60	B	B	C	8D				
C30	B	B	C	C66	B	B	C	7D	C103	A	B	C	3D	Q4	B	B	C	7D	R23	B	B	C	6E	R61	B	B	C	8D				
C31	B	B	C	C67	A	D	7C	C104	C105	B	B	C	3D	Q5	B	B	C	6E	R24	B	B	C	6E	R62	B	B	C	3B				
C32	B	B	C	C68	B	B	C	7D	C106	B	B	C	5B	Q6	B	B	C	6B	R25	B	B	C	7E	R63	B	B	C	4A				
C33	A	D	5C	C69	B	B	C	7E	C107	B	B	C	5B	Q7	B	B	C	4E	R26	B	B	C	6D	R64	B	B	C	4C				
C34	B	B	C	C70	A	D	7E	C108		B	B	C	2A	Q8	B	B	C	4E	R27	B	B	C	6E	R65	B	B	C	4D				
C35	B	B	C	C71	A	D	7E							Q9	B	B	C	3E	R28	B	B	C	6D	R66	B	B	C	4D				
				C72	B	B	C	2D						Q10	B	B	C	5A	R29	B	B	C	6D	R67	B	B	C	8D				

4.18 PRE/REC SCHEMATIC DIAGRAM



NOTE: Mark * is not used.

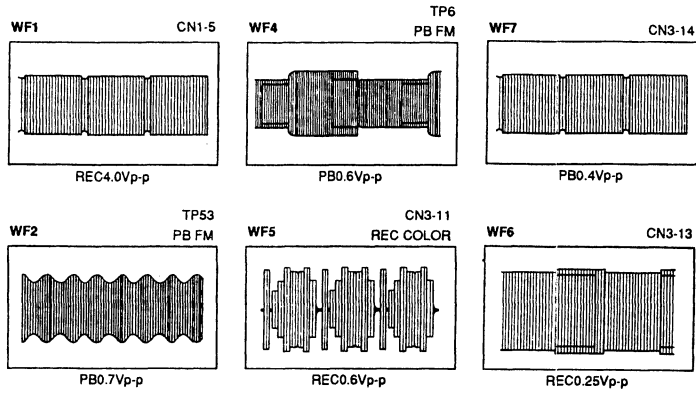
4.19 PRE/REC CIRCUIT BOARD



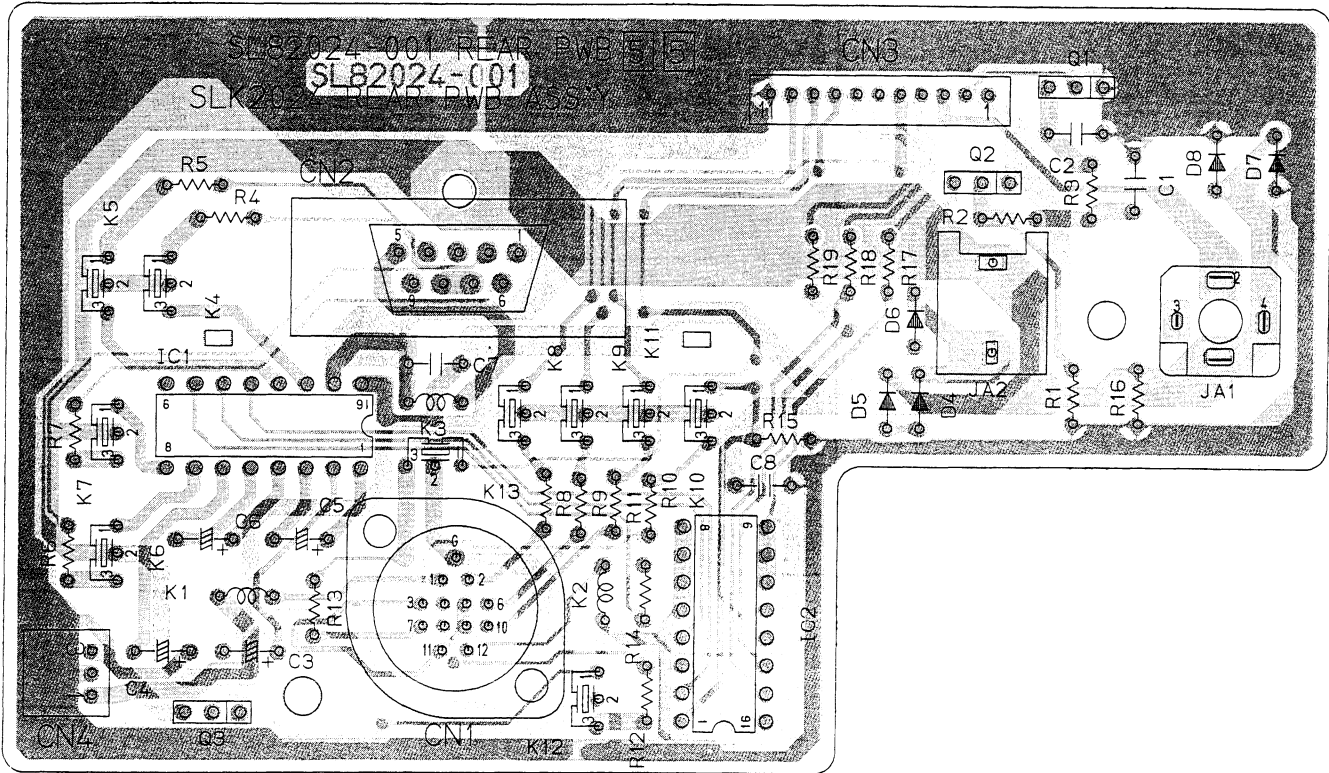
4.20 REAR CIRCUIT BOARD

WAVEFORMS

— PRE/REC —



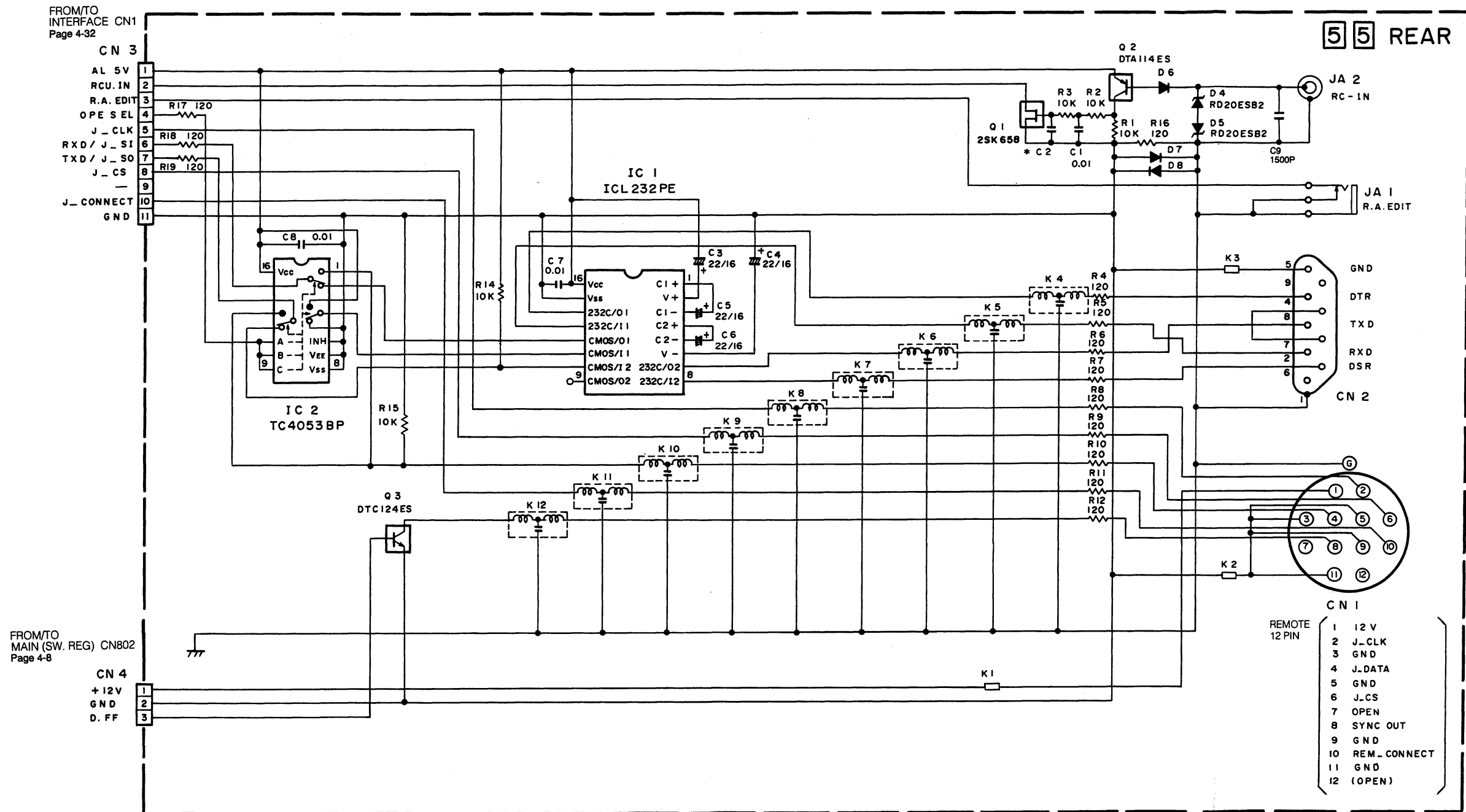
— B side —



COMPONENT PARTS LOCATION GUIDE <PRE/REC>

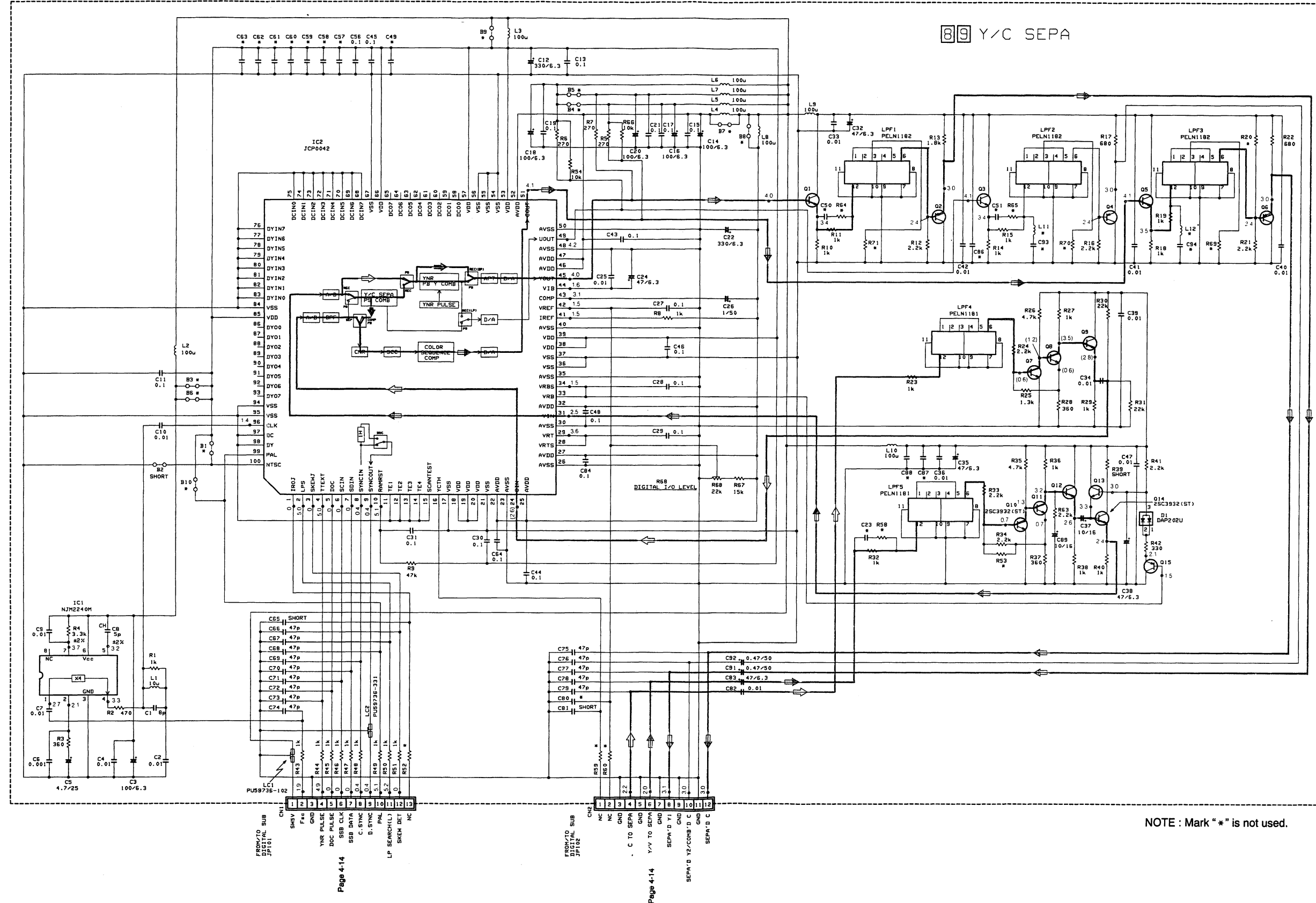
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR													
C1	A	C67	A	C121	B	C213	B	C301	A	R135	B	R201	B
C2	B	C68	A	C122	B	C214	B	C302	A	R136	B	R202	B
C3	B	C69	A	C123	B	C215	B	C303	A	R137	B	R203	B
C4	B	C70	A	C124	B	C216	B	C304	A	R138	B	R204	B
C5	B	C71	A	C125	B	C217	B	C305	A	R139	B	R205	B
C6	B	C72	A	C126	B	C218	B	C306	A	R140	B	R206	B
C7	B	C73	A	C127	B	C219	B	C307	A	R141	B	R207	B
C8	B	C74	A	C128	B	C220	B	C308	A	R142	B	R208	B
C9	B	C75	A	C129	B	C221	B	C309	A	R143	B	R209	B
C10	B	C76	A	C130	B	C222	B	C310	A	R144	B	R210	B
C11	B	C77	A	C131	B	C223	B	C311	A	R145	B	R211	B
C12	B	C78	A	C132	B	C224	B	C312	A	R146	B	R212	B
C13	B	C79	A	C133	B	C225	B			R147	B	R213	B
C14	B	C80	A	C134	B	C226	B			R148	B	R214	B
C15	B	C81	A	C135	B	C227	B			R149	B	R215	B
C16	B	C82	A	C136	B	C228	B			R150	B	R216	B
C17	B	C83	A	C137	B	C229	B			R151	B	R217	B
C18	B	C84	A	C138	B	C230	B			R152	B	R218	B
C19	B	C85	A	C139	B	C231	B			R153	B	R219	B
C20	B	C86	A	C140	B	C232	B			R154	B	R220	B
C21	B	C87	A	C141	B	C233	B			R155	B	R221	B
C22	B	C88	A	C142	B	C234	B			R156	B	R222	B
C23	B	C89	A	C143	B	C235	B			R157	B	R223	B
C24	B	C90	A	C144	B	C236	B			R158	B	R224	B
C25	B	C91	A	C145	B	C237	B			R159	B	R225	B
C26	B	C92	A	C146	B	C238	B			R160	B	R226	B
C27	B	C93	A	C147	B	C239	B			R161	B	R227	B
C28	B	C94	A	C148	B	C240	B			R162	B	R228	B
C29	B	C95	A	C149	B	C241	B			R163	B	R229	B
C30	B	C96	A	C150	B	C242	B			R164	B	R230	B
C31	B	C97	A	C151	B	C243	B			R165	B	R231	B
C32	B	C98	A	C152	B	C244	B			R166	B	R232	B
C33	B	C99	A	C153	B	C245	B			R167	B	R233	B
C34	B	C100	A	C154	B	C246	B			R168	B	R234	B
C35	B	C101	A	C155	B	C247	B			R169	B	R235	B
C36	B	C102	A	C156	B	C248	B			R170	B	R236	B
C37	B	C103	A	C157	B	C249	B			R171	B	R237	B
C38	B	C104	A	C158	B	C250	B			R172	B	R238	B
C39	B	C105	A	C159	B	C251	B			R173	B	R239	B
C40	B	C106	A	C160	B	C252	B			R174	B	R240	B
C41	B	C107	A	C161	B	C253	B			R175	B	R241	B
C42	B	C108	A	C162	B	C254	B			R176	B	R242	B
C43	B	C109	A	C163	B	C255	B			R177	B	R243	B
C44	B	C110	A	C164	B	C256	B			R178	B	R244	B
C45	B	C111	A	C165	B	C257	B			R179	B	R245	B
C46	B	C112	A	C166	B	C258	B			R180	B	R246	B
C47	B	C113	A	C167	B	C259	B			R181	B	R247	B
C48	B	C114	A	C168	B	C260	B			R182	B	R248	B
C49	B	C115	A	C169	B	C261	B			R183	B	R249	B
C50	B	C116	A	C170	B	C262	B			R184	B	R250	B
C51	B	C117	A	C171	B	C263	B			R185	B	R251	B
C52	B	C118	A	C172	B	C264	B			R186	B	R252	B
C53	B	C119	A	C173	B	C265	B			R187	B	R253	B
C54	B	C120	A	C174	B	C266	B			R188	B	R254	B
C55	B	C121	A	C175	B	C267	B			R189	B	R255	B
C56	B	C122	A	C176	B	C268	B			R190	B	R256	B
C57	B	C123	A	C177	B	C269	B			R191	B	R257	B
C58	B	C124	A	C178	B	C270	B			R192	B	R258	B
C59	B	C125	A	C179	B	C271	B			R193	B	R259	B
C60	B	C126	A	C180	B	C272	B			R194	B	R260	B
C61	B	C127	A	C181	B	C273	B			R195	B	R261	B
C62	B	C128	A	C182	B	C274	B			R196	B	R262	B
C63	B	C129	A	C183	B	C275	B			R197	B	R263	B
C64	B	C130	A	C184	B	C276	B			R198	B	R264	B
C65	B	C131	A	C185	B	C277	B			R199	B	R265	B
C66	B	C132	A	C186	B	C278	B			R200	B	R266	B
C67	B	C133	A	C187	B	C279	B			R201	B	R267	B
C68	B	C134	A	C188	B	C280	B			R202	B	R268	B
C69	B	C135	A	C189	B	C281	B			R203	B	R269	B
C70	B	C136	A	C190	B	C282	B			R204	B	R270	B
C71	B	C137	A	C191	B	C283	B			R205	B	R271	B
C72	B	C138	A	C192	B	C284	B			R206	B	R272	B
C73	B	C139	A	C193	B	C285	B			R207	B	R273	B
C74	B	C140	A	C194	B	C286	B			R208	B	R274	B
C75	B	C141	A	C195	B	C287	B			R209	B	R275	B
C76	B	C142	A	C196	B	C288	B			R210	B	R276	B
C77	B	C143	A	C197	B	C289	B			R211	B	R277	B
C78	B	C144	A	C198	B	C290	B			R212	B	R278	B
C79	B	C145	A	C199	B	C291	B			R213	B	R279	B
C80	B	C146	A	C200	B	C292	B			R214	B	R280	B
C81	B	C147	A	C201	B	C293	B			R215	B	R281	B
C82	B	C148	A	C202	B	C294	B			R216	B	R282	B
C83	B	C149	A	C203	B	C295	B			R217	B	R283	B
C84	B	C150	A	C204	B	C296	B			R218	B	R284	B
C85	B	C151	A	C205	B	C297	B			R219	B	R285	B
C86	B	C152	A	C206	B	C298	B			R220	B	R286	B
C87	B	C153	A	C207	B	C299	B			R221	B	R287	B
C88	B	C154	A	C208	B	C300	B			R222	B	R288	B
C89	B	C155	A	C209	B	C301	B			R223	B	R289	B
C90	B	C156	A	C210	B	C302	B			R224	B	R290	B
C91	B	C157	A	C211	B	C303	B			R225	B	R291	B
C92	B	C158	A	C212	B	C304	B			R226	B	R292	B
C93	B	C159	A	C213	B					R227	B	R293	B
C94	B	C160	A	C214	B					R228	B	R294	B
C95	B	C161	A	C215	B					R229	B	R295	B
C96	B	C162	A	C216	B					R230	B	R296	B
C97	B	C163	A	C217	B					R231	B	R297	B
C98	B	C164	A	C218	B					R232	B	R298	B
C99	B	C165	A	C219	B					R233	B	R299	B
C100	B	C166	A	C220	B					R234	B	R300	B
C101	B	C167	A	C221	B					R235	B	R301	B
C102	B	C168	A	C222	B					R236	B	R302	B
C103	B	C169	A	C223	B					R237	B	R303	B
C104	B	C170	A	C224	B					R238	B	R304	B
C105	B	C171	A	C225	B					R239	B	R305	B
C106	B	C172	A	C226	B					R240	B	R306	B
C107	B	C173	A	C227	B					R241	B	R307	B
C108	B	C174	A	C228	B					R242	B	R308	B
C109	B	C175	A	C229	B					R243	B		
C110	B	C176	A	C230	B					R244	B		
C111	B	C177	A	C231	B					R245	B		
C112	B	C178	A	C232	B					R246	B		
C113	B	C179	A	C233	B					R247	B		
C114	B	C180	A	C234	B					R248	B		
C115	B	C181	A	C235	B					R249	B		
C116	B	C182	A	C236	B					R250	B		
C117	B	C183	A	C237	B					R251	B		
C118	B	C184	A	C238	B					R252	B		
C119	B	C185	A	C239	B					R253	B		
C120	B	C186	A	C240	B					R254	B		
C121	B	C187	A	C241	B					R255	B		
C122	B	C188	A	C242	B					R256	B		
C123	B	C189	A	C243	B					R257	B		
C124	B	C190	A	C244	B					R258	B		
C125	B	C191	A	C245	B					R259	B		
C126	B	C192	A	C246	B					R260	B		
C127	B	C193	A	C247	B					R261	B		
C128	B	C194	A	C248	B					R262	B		
C129	B	C195	A	C249	B					R263	B		
C130	B	C196	A	C250	B					R264	B		
C131	B	C197	A	C251	B					R265	B		
C132	B	C198	A	C252	B					R266	B		
C133	B	C199	A	C253	B					R267	B		
C134	B	C200	A	C254	B					R268	B		
C135	B	C201	A	C255	B					R269	B		
C136	B	C202</											

4.21 REAR SCHEMATIC DIAGRAM



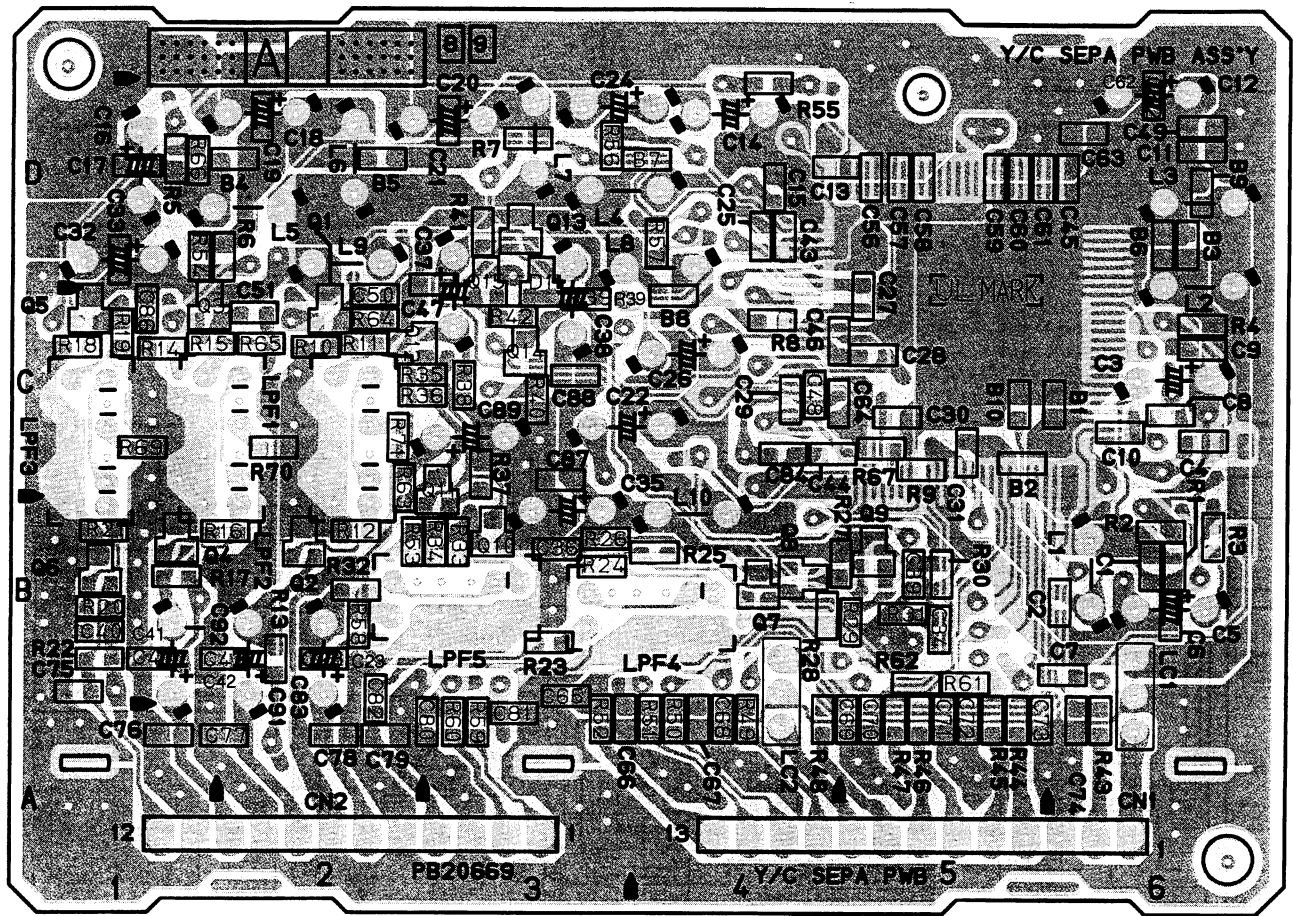
NOTE: Mark "*" is not used.

4.22 Y/C SEPARATOR SCHEMATIC DIAGRAM

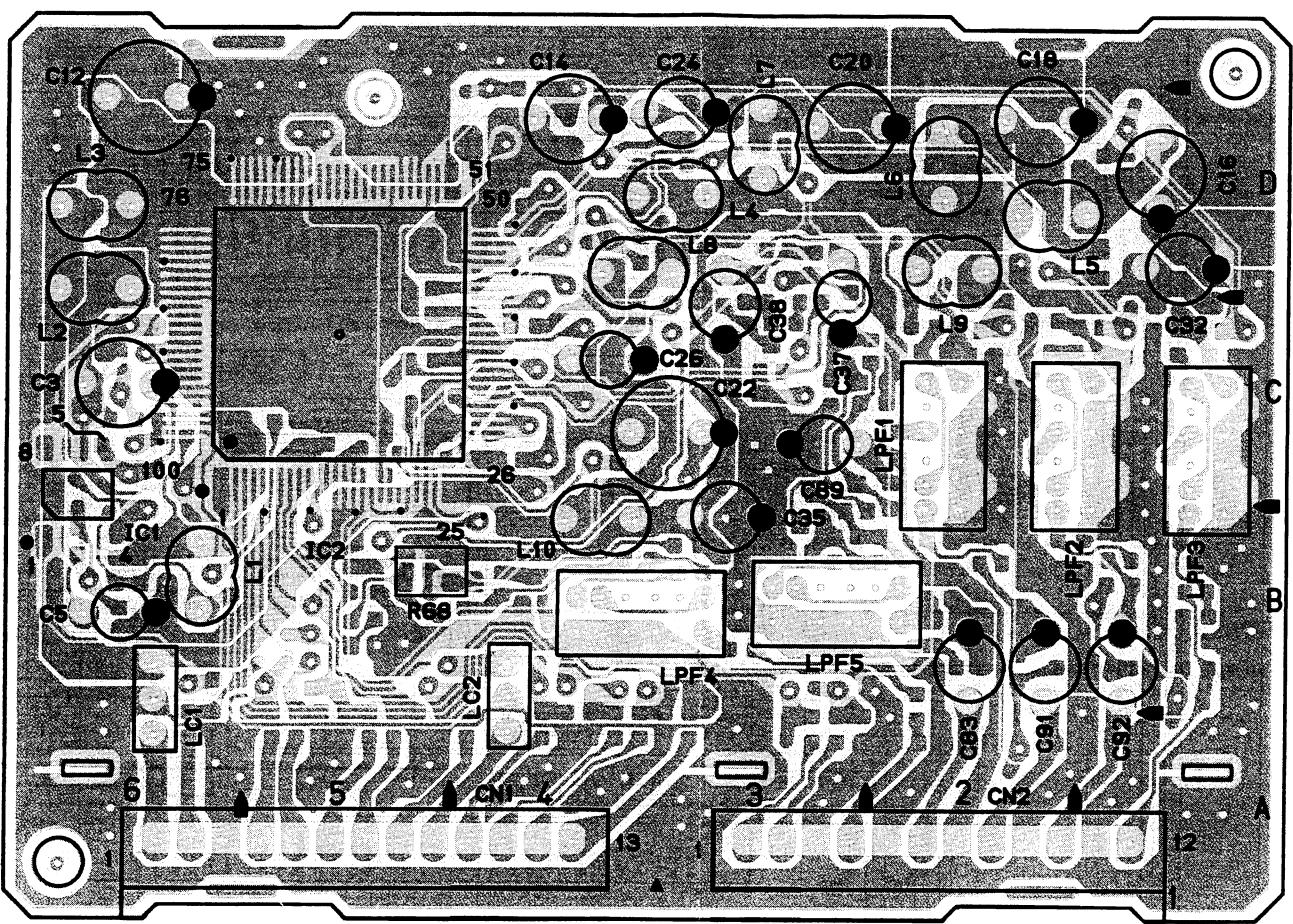


4.23 Y/C SEPARATOR CIRCUIT BOARD

— B side —



— A side —

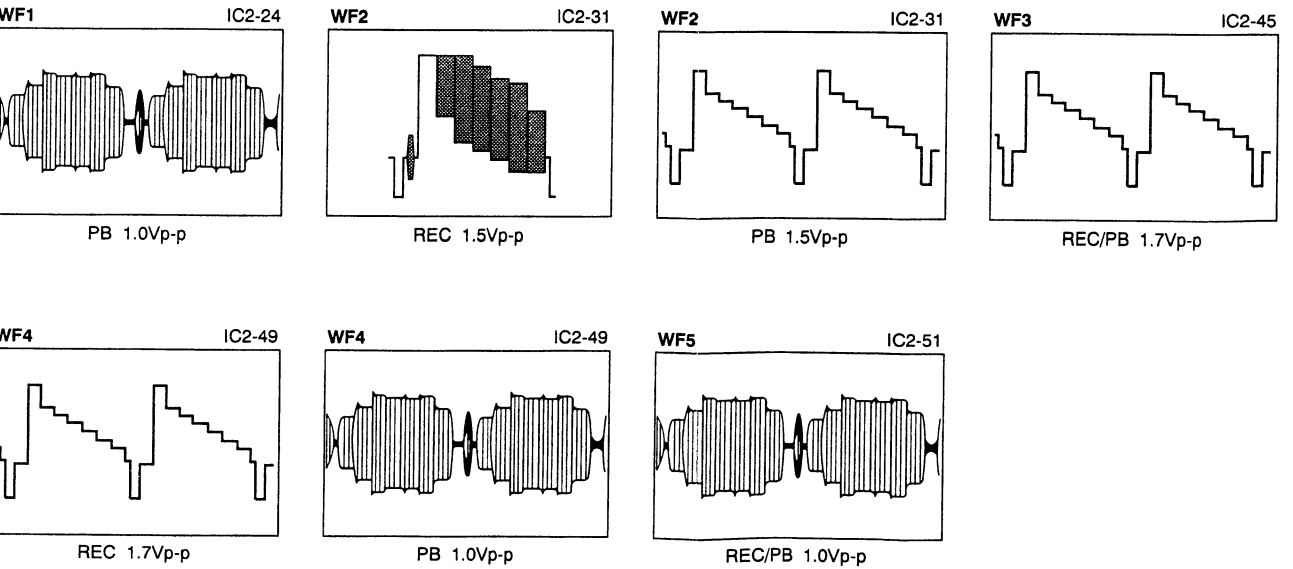


COMPONENT PARTS LOCATION GUIDE <Y/C SEPA>

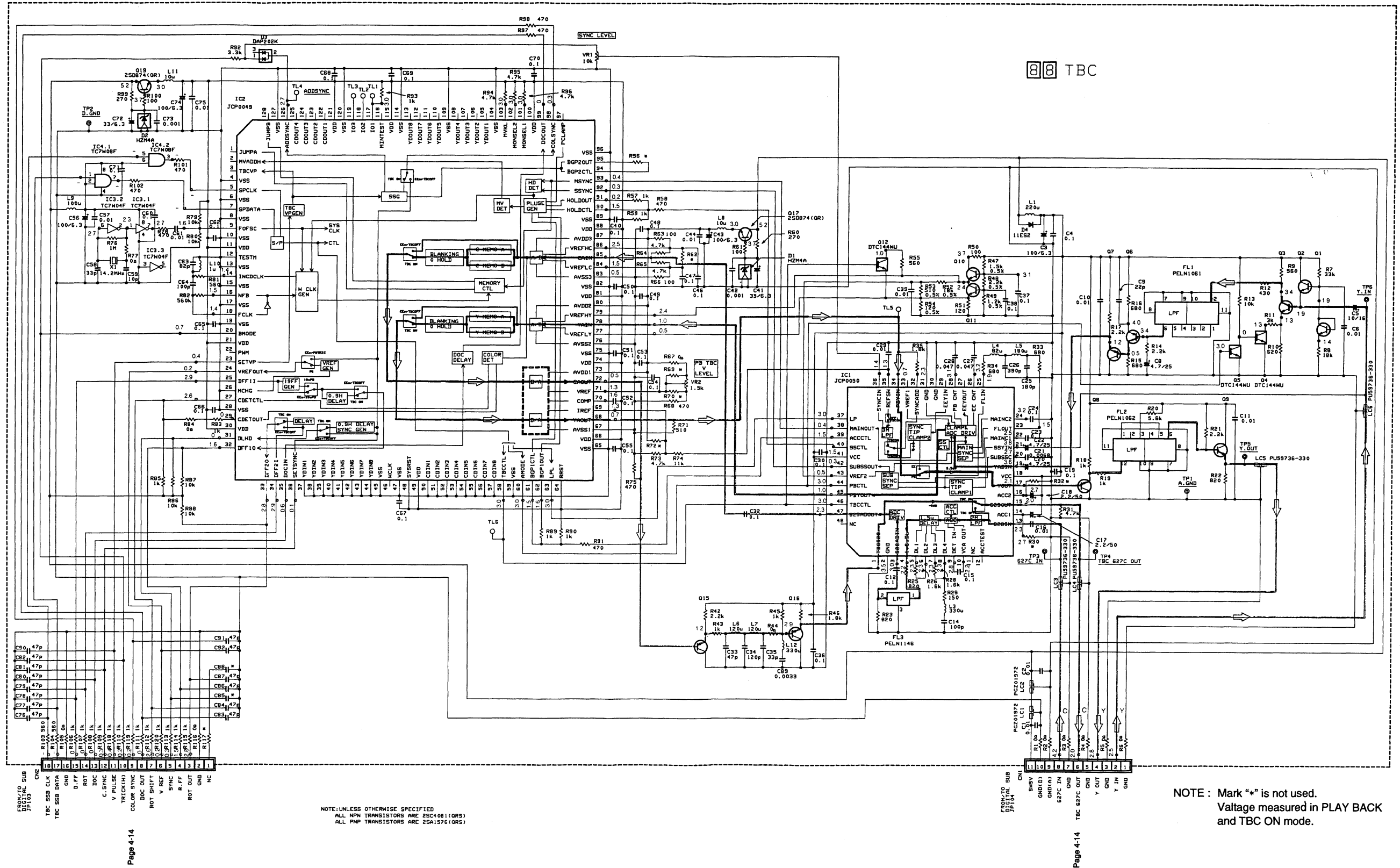
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C43	B C	4D	CONNECTOR		R43	B C	6A
C1	B C	C44	B C	4C	CN1	A D	R44	B C	5A
C2	A B	C45	B C	4C	CN2	A D	R45	B C	5A
C3	A B	C46	B C	4C			R46	B C	5A
C4	A B	C47	B C	3D	DIODE		R47	B C	5A
C5	A B	C48	B C	4C	D1	B C	R48	B C	4A
C6	A B	C49	B C	6D			R49	B C	4A
C7	B C	C50	B C	2C	IC		R50	B C	4A
C8	B C	C51	B C	2C	IC1	A C	R51	B C	4A
C9	B C	C52	B C	5D	IC2	A C	R52	B C	3A
C10	B C	C53	B C	5D			R53	B C	2B
C11	B C	C54	B C	5D	COIL		R54	B C	1D
C12	A B	C55	B C	5D	L1	A D	R55	B C	4D
C13	A B	C56	B C	5D	L2	A D	R56	B C	3D
C14	A B	C57	B C	5D	L3	A D	R57	B C	4D
C15	A B	C58	B C	5D	L4	A D	R58	B C	2B
C16	A B	C59	B C	5D	L5	A D	R59	B C	3A
C17	A B	C60	B C	5D	L6	A D	R60	B C	5B
C18	A B	C61	B C	5D	L7	A D	R61	B C	5B
C19	A B	C62	B C	5D	L8	A D	R62	B C	2C
C20	A B	C63	B C	5D	L9	A D	R63	B C	2C
C21	A B	C64	B C	5D	L10	A D	R64	B C	2C
C22	A B	C65	B C	5D			R65	B C	2C
C23	A B	C66	B C	5D	TRANSISTOR		R66	B C	1D
C24	A B	C67	B C	5D	Q1	B C	R67	B C	5C
C25	A B	C68	B C	5D	Q2	B C	R68	B C	5B
C26	A B	C69	B C	5D	Q3	B C	R69	B C	1C
C27	A B	C70	B C	5D	Q4	B C	R70	B C	2C
C28	A B	C71	B C	5D	Q5	B C	R71	B C	
C29	A B	C72	B C	5D	Q6	B C			
C30	A B	C73	B C	5D	Q7	B C	OTHERS		
C31	A B	C74	B C	5D	Q8	B C	LC1	A D	6A
C32	A B	C75	B C	5D	Q9	B C	LC2	A D	4A
C33	A B	C76	B C	5D	Q10	B C	LPF1	A D	2C
C34	A B	C77	B C	5D	Q11	B C	LPF2	A D	1C
C35	A B	C78	B C	5D	Q12	B C	LPF3	A D	3B
C36	A B	C79	B C	5D	Q13	B C	LPF4	A D	2B
C37	A B	C80	B C	5D	Q14	B C	LPF5	A D	
C38	A B	C81	B C	5D	Q15	B C			
C39	A B	C82	B C	5D					
C40	A B	C83	B C	5D					
C41	A B	C84	B C	5D					
C42	A B	C85	B C	5D					

WAVEFORMS

— Y/C SEPA —

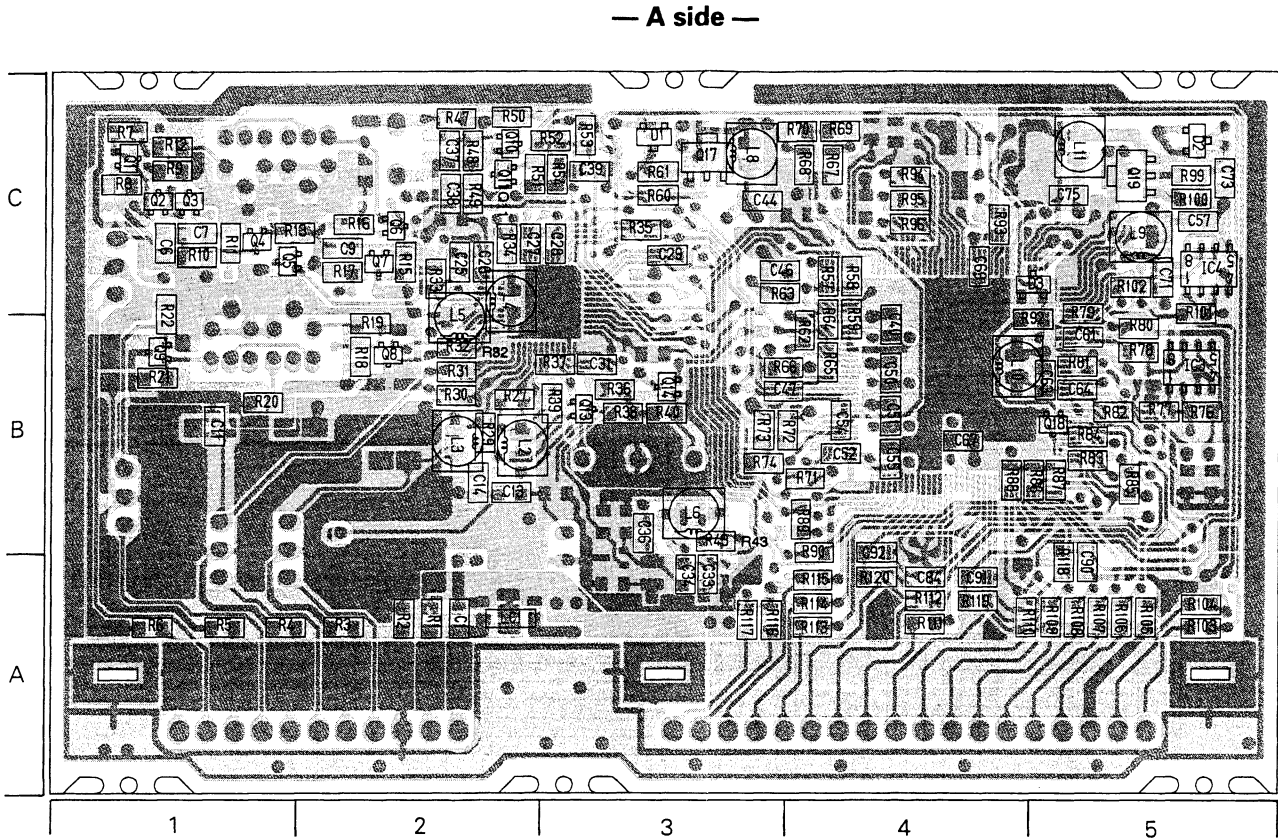
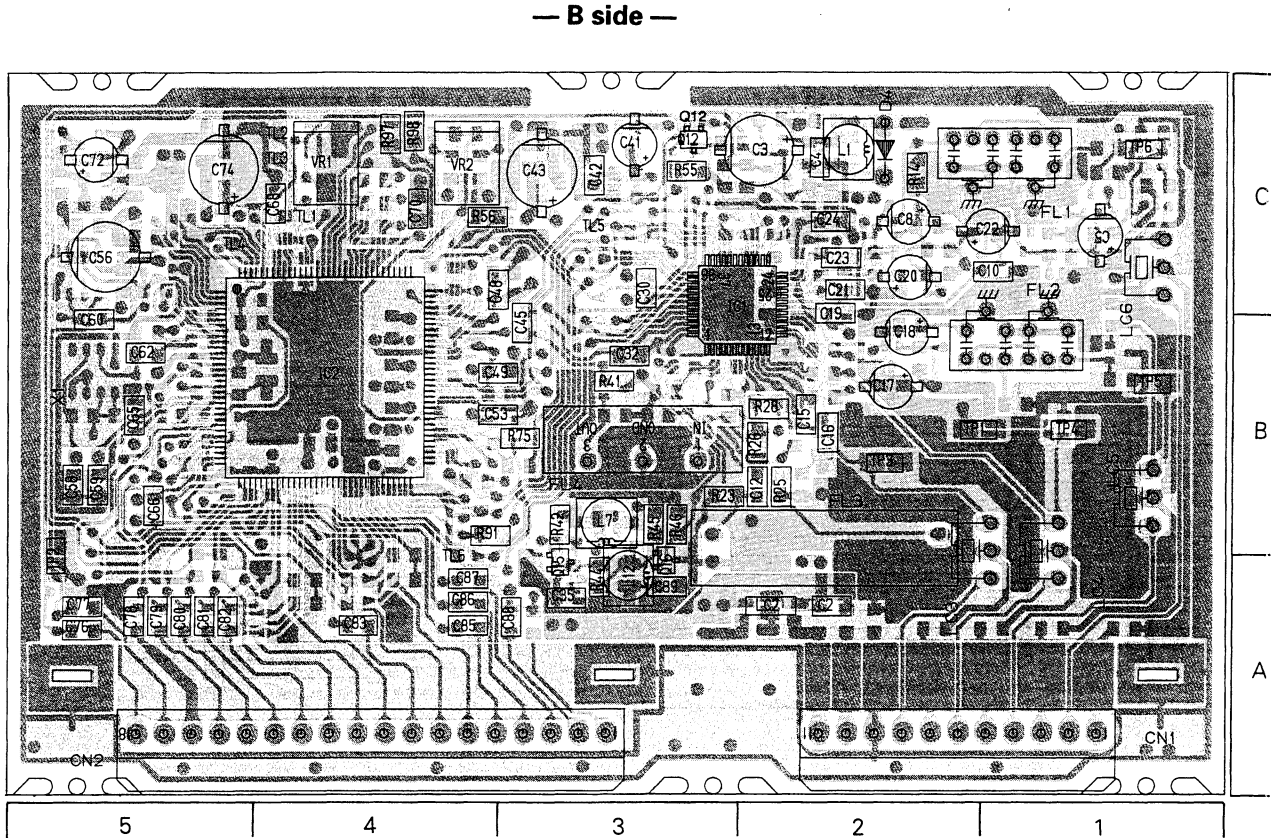


4.24 TBC SCHEMATIC DIAGRAM



NOTE: Mark "*" is not used.
Voltage measured in PLAY BACK
and TBC ON mode.

4.25 TBC CIRCUIT BOARD

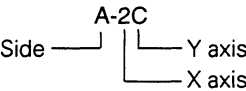


COMPONENT PARTS LOCATION GUIDE <for TBC>

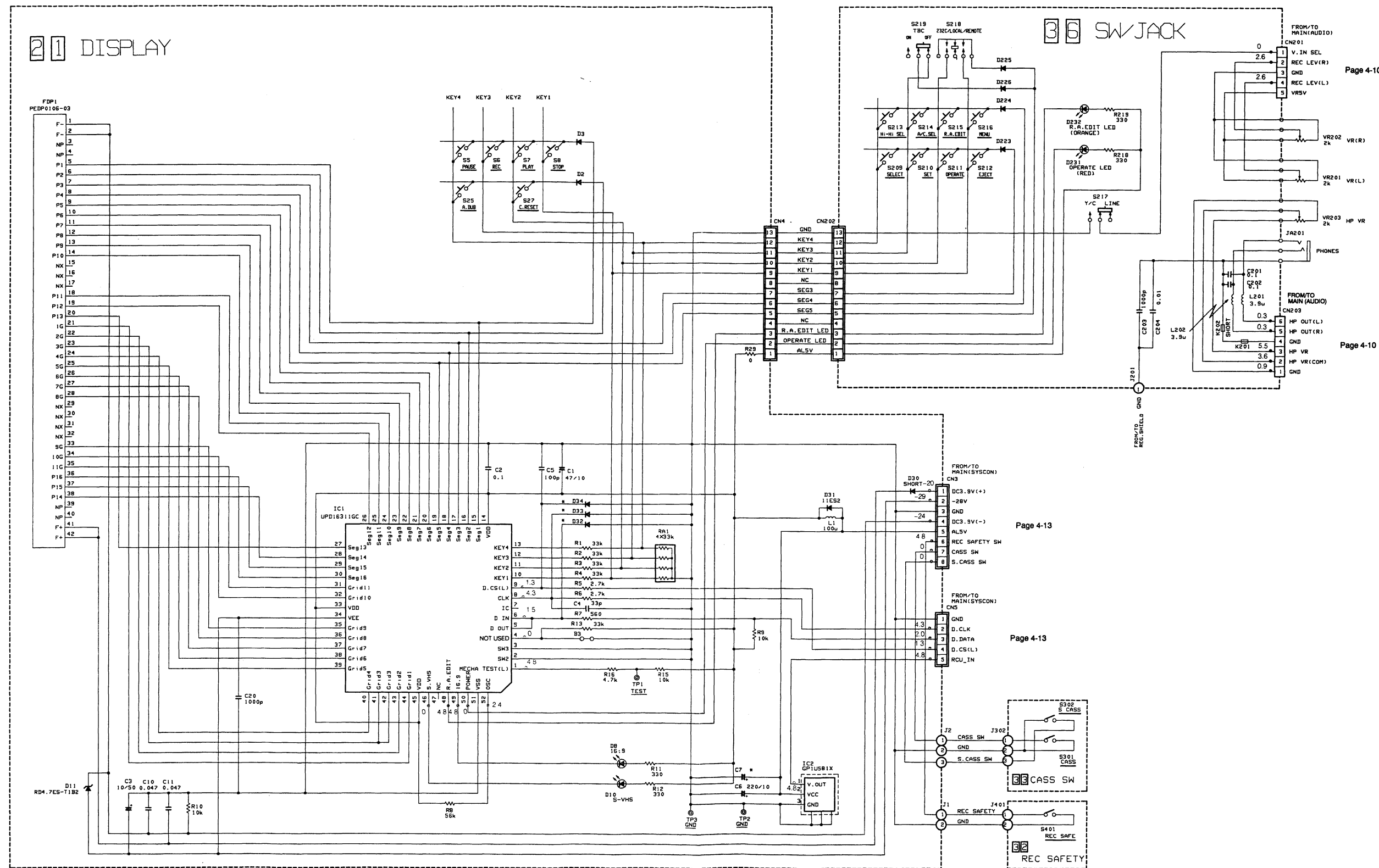
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
IC1	A- 2C	R15	B- 2C	R59	B- 3C	R101	B- 5C	C16	A- 2B	C56	A- 5C
IC2	A- 4C	R16	B- 1C	R60	B- 3C	R102	B- 5C	C17	A- 2C	C57	B- 5C
IC3	B- 5C	R17	B- 1C	R61	B- 3C	R103	B- 5B	C18	A- 2C	C58	A- 5B
IC4	B- 5C	R18	B- 1C	R62	B- 3C	R104	B- 5B	C19	A- 2C	C59	A- 5B
		R19	B- 2C	R63	B- 3C	R105	B- 5B	C20	A- 2C	C60	A- 5C
Q1	B- 1C	R20	B- 1B	R64	B- 3C	R106	B- 5B	C21	A- 2C	C61	B- 4C
Q2	B- 1C	R21	B- 1C	R65	B- 3C	R107	B- 4B	C22	A- 1C	C62	A- 5C
Q3	B- 1C	R22	B- 1C	R66	B- 3C	R108	B- 4B	C23	A- 2C	C63	B- 4C
Q4	B- 1C	R23	A- 2B	R67	B- 3C	R109	B- 4B	C24	A- 2C	C64	B- 4C
Q5	B- 1C	R25	A- 2B	R68	B- 3C	R110	B- 4B	C25	B- 2C	C65	A- 5B
Q6	B- 2C	R26	A- 2B	R71	B- 3B	R111	B- 4B	C26	B- 2C	C66	A- 5B
Q7	B- 2C	R27	B- 2C	R72	B- 3B	R112	B- 4B	C27	B- 2C	C67	B- 4B
Q8	B- 2C	R28	A- 2B	R73	B- 3B	R113	B- 3B	C28	B- 2C	C68	A- 4C
Q9	B- 1C	R29	B- 2B	R74	B- 3B	R114	B- 3B	C29	B- 3C	C69	B- 4C
Q11	B- 2C	R30	B- 2C	R75	A- 3B	R115	B- 3B	C30	A- 3C	C70	A- 4C
Q13	B- 2B	R31	B- 2C	R76	B- 5B	R116	B- 3B	C31	B- 2C	C71	B- 5C
Q14	B- 3C	R32	B- 2C	R77	B- 5B	R117	B- 3B	C32	A- 3C	C72	A- 5C
Q15	A- 3B	R33	B- 2C	R78	B- 5C	R118	B- 4B	C33	B- 3B	C73	B- 5C
Q16	A- 3B	R34	B- 2C	R79	B- 4C	R119	B- 4B	C34	B- 3B	C74	A- 4C
Q17	B- 3C	R35	B- 3C	R80	B- 5C	R120	B- 4B	C35	A- 3B	C75	B- 4C
Q18	B- 4B	R36	B- 3C	R81	B- 4C			C36	B- 3B	C76	A- 5B
Q19	B- 5C	R37	B- 2C	R82	B- 5B	VR1	A- 4C	C38	B- 2C	C77	A- 5B
		R38	B- 3B	R83	B- 4B	VR2	A- 3C	C39	B- 2C	C78	A- 5B
		R39	B- 2B	R84	B- 4B			C40	B- 4C	C79	A- 5B
D3	B- 4C	R40	B- 3B	R85	B- 5B	C1	B- 2B	C42	A- 3C	C80	A- 4B
D4	A- 2C	R41	A- 3C	R86	B- 4B	C2	A- 2B	C43	A- 3C	C81	A- 4B
		R42	A- 3B	R87	B- 4B	C4	A- 2C	C44	B- 3C	C82	A- 4B
R1	B- 2B	R43	B- 3B	R88	B- 4B	C5	A- 1C	C45	A- 3C	C83	A- 4B
R2	B- 2B	R44	A- 3B	R89	B- 3B	C6	B- 1C	C46	B- 3C	C84	B- 4B
R3	B- 1B	R45	A- 3B	R90	B- 3B	C7	B- 1C	C47	B- 3C	C85	A- 3B
R4	B- 1B	R46	A- 2B	R91	A- 3B	C8	A- 2C	C48	A- 3C	C86	A- 3B
R5	B- 1B	R49	B- 2C	R92	B- 4C	C9	B- 1C	C49	A- 3C	C87	A- 3B
R6	B- 1B	R51	B- 2C	R93	B- 4C	C10	A- 1C	C50	B- 4C	C88	A- 3B
R8	B- 1C	R54	B- 2C	R94	B- 4C	C11	B- 1B	C51	B- 4B	C89	A- 3B
R9	B- 1C	R55	A- 2C	R95	B- 4C	C12	A- 2B	C52	B- 3B	C90	B- 4B
R10	B- 1C	R56	A- 3C	R96	B- 4C	C13	B- 2B	C53	A- 3B	C91	B- 4B
R11	B- 1C	R57	B- 3C	R99	B- 5C	C14	B- 2B	C54	B- 3B	C92	B- 4B
R13	B- 1C	R58	B- 3C	R100	B- 5C	C15	A- 2B	C55	B- 4B		
R14	A- 2C										

● ADDRESS TABLE OF BOARD PARTS

Each address may have an address error by one interval.



4.26 DISPLAY, SW/JACK, REC SAFETY, CASSETTE SW SCHEMATIC DIAGRAM



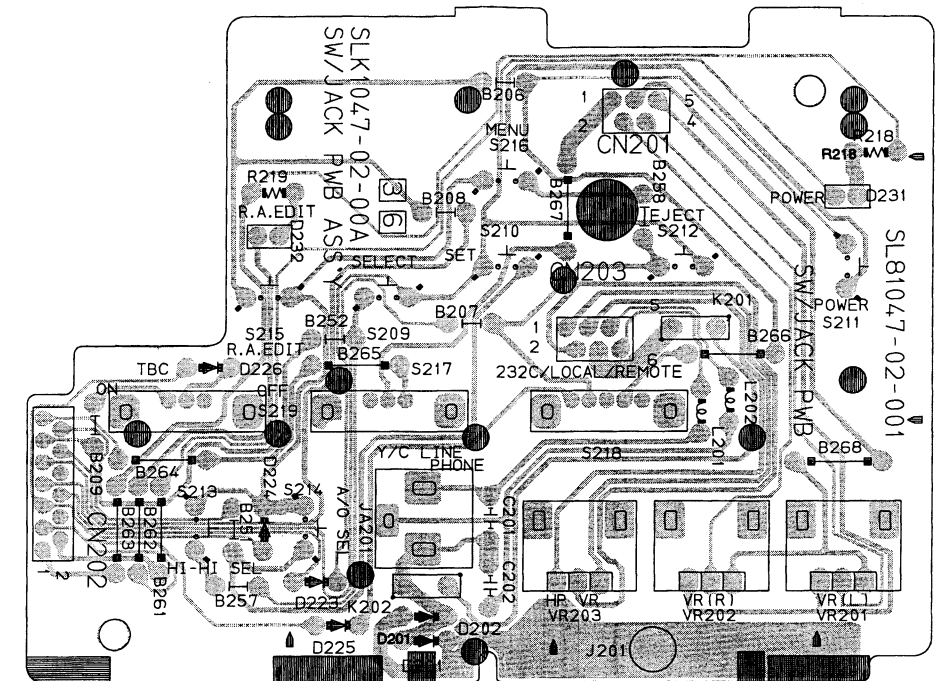
Page 4-10

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Page 4-13

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— SW/JACK —



S301
S306
CASS

SLK1047-03-00A
CASS.SW PWB ASS'Y
SL81047-03-001
CASS.SW PWB

J302
3

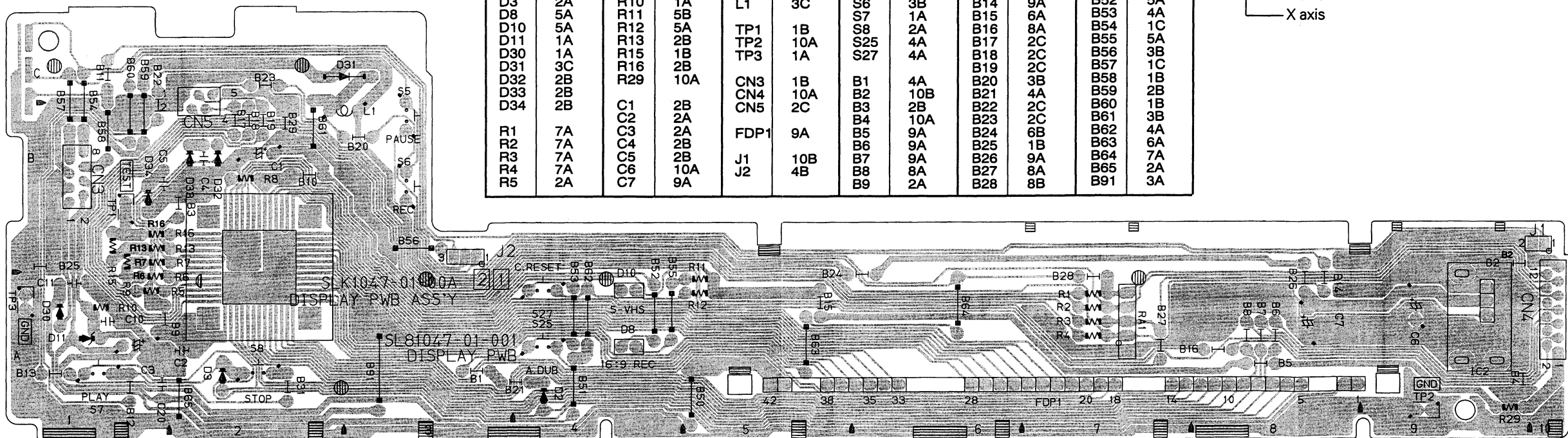
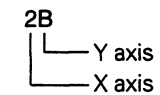
CASS

COMPONENT PARTS LOCATION GUIDE <for DISPLAY>

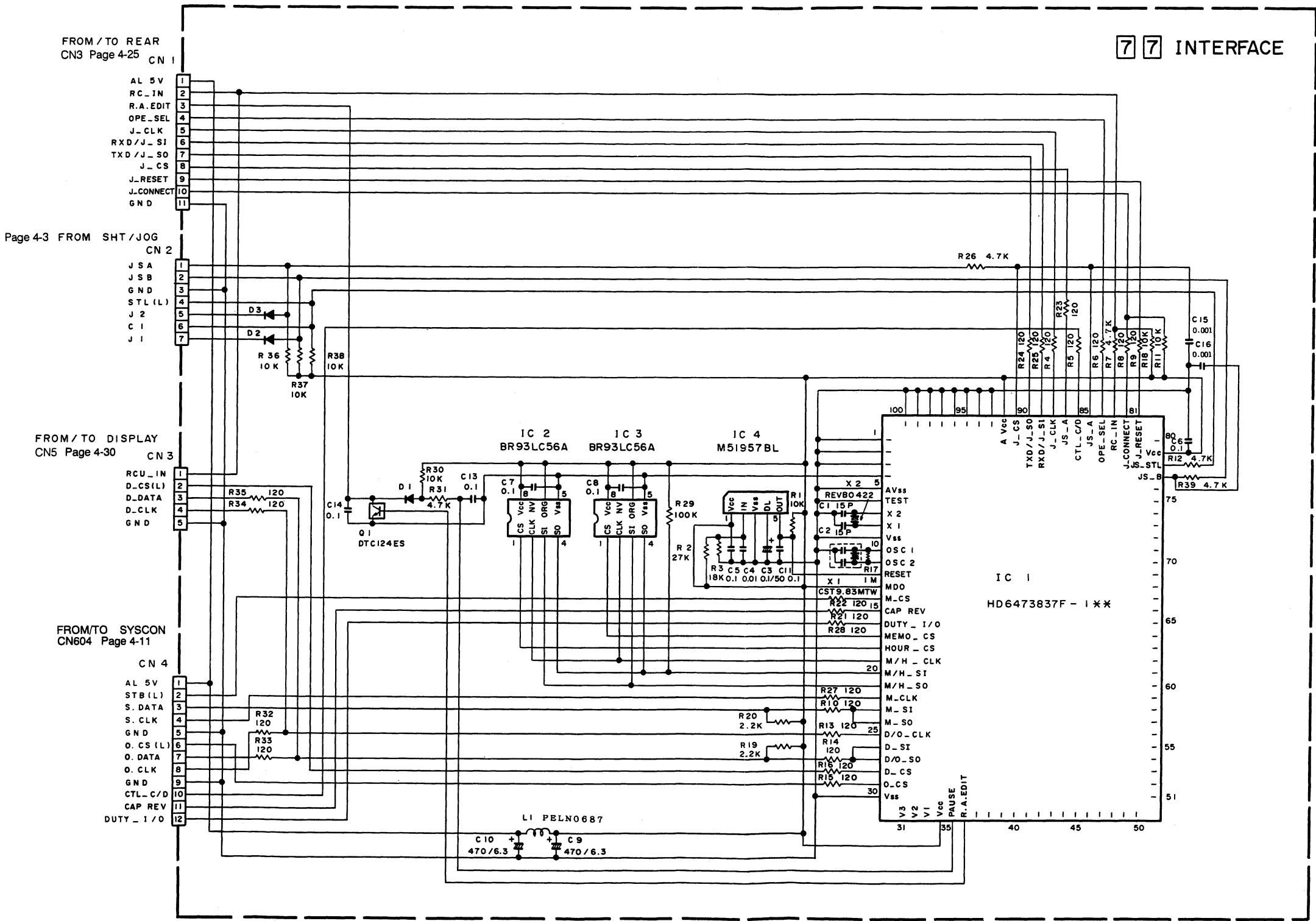
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
IC1	2B	R6	2B	C10	1A			B10	2B	B29	2B
IC2	10A	R7	2B	C11	1B	RA1	8A	B11	1C	B31	2A
		R8	2B	C20	2A			B12	1A	B50	5A
D2	4A	R9	1B			S5	3C	B13	1A	B51	4A
D3	2A	R10	1A	L1	3C	S6	3B	B14	9A	B52	5A
D8	5A	R11	5B			S7	1A	B15	6A	B53	4A
D10	5A	R12	5A	TP1	1B	S8	2A	B16	8A	B54	1C
D11	1A	R13	2B	TP2	10A	S25	4A	B17	2C	B55	5A
D30	1A	R15	1B	TP3	1A	S27	4A	B18	2C	B56	3B
D31	3C	R16	2B					B19	2C	B57	1C
D32	2B	R29	10A	CN3	1B	B1	4A	B20	3B	B58	1B
D33	2B			CN4	10A	B2	10B	B21	4A	B59	2B
D34	2B			CN5	2C	B3	2B	B22	2C	B60	1B
		C1	2B			B4	10A	B23	2C	B61	3B
		C2	2A			B5	9A	B24	6B	B62	4A
R1	7A	C3	2A	FDP1	9A	B6	9A	B25	1B	B63	6A
R2	7A	C4	2B			B7	9A	B26	9A	B64	7A
R3	7A	C5	2B	J1	10B	B8	8A	B27	8A	B65	2A
R4	7A	C6	10A	J2	4B	B9	2A	B28	8B	B91	3A
R5	2A	C7	9A								

● ADDRESS TABLE OF BOARD PARTS

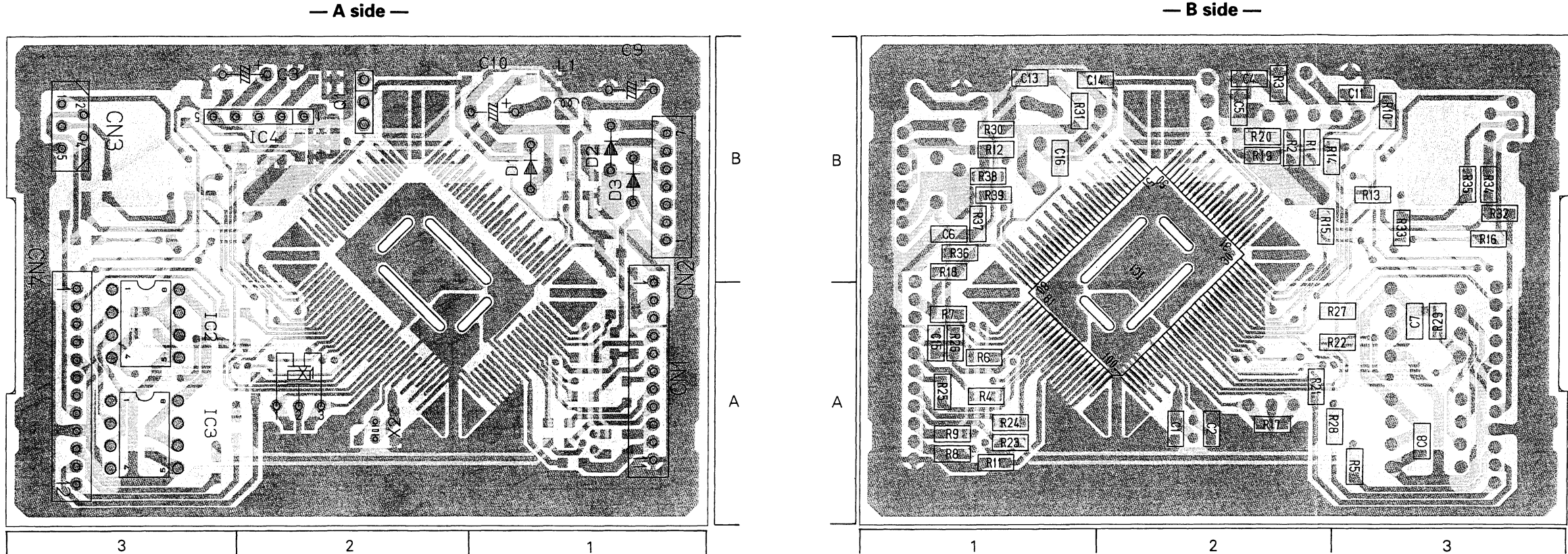
Each address may have an address error by one interval.



4.28 INTERFACE SCHEMATIC DIAGRAM



4.29 INTERFACE CIRCUIT BOARD



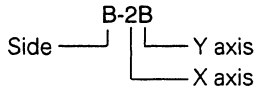
SL82023-002

COMPONENT PARTS LOCATION GUIDE <for IF>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
IC1	B- 2B	R12	B- 1B	R34	B- 3B	L1	A- 1B
IC2	A- 3A	R13	B- 3B	R35	B- 3B		
IC3	A- 3A	R14	B- 3B	R36	B- 1B		
IC4	A- 2B	R15	B- 2B	R37	B- 1B		
Q1	A- 2B	R16	B- 3B	R38	B- 1B	X2	A- 2A
		R17	B- 2A	R39	B- 1B		
		R18	B- 1B			CN1	A- 1A
D1	A- 1B	R19	B- 2B	C1	B- 2A	CN2	A- 1B
D2	A- 1B	R20	B- 2B	C2	B- 2A	CN3	A- 3B
D3	A- 1B	R21	B- 2A	C3	A- 2B	CN4	A- 3A
		R22	B- 3A	C4	B- 2B		
R1	B- 2B	R23	B- 1A	C5	B- 2B		
R2	B- 2B	R24	B- 1A	C6	B- 1B		
R3	B- 2B	R25	B- 1A	C7	B- 3A		
R4	B- 1A	R26	B- 1A	C8	B- 3A		
R5	B- 3A	R27	B- 3A	C9	A- 1B		
R6	B- 1A	R28	B- 3A	C10	A- 1B		
R7	B- 1A	R29	B- 3A	C11	B- 3B		
R8	B- 1A	R30	B- 1B	C13	B- 1B		
R9	B- 1A	R31	B- 1B	C14	B- 2B		
R10	B- 3B	R32	B- 3B	C15	B- 1A		
R11	B- 1A	R33	B- 3B	C16	B- 1B		

● ADDRESS TABLE OF BOARD PARTS

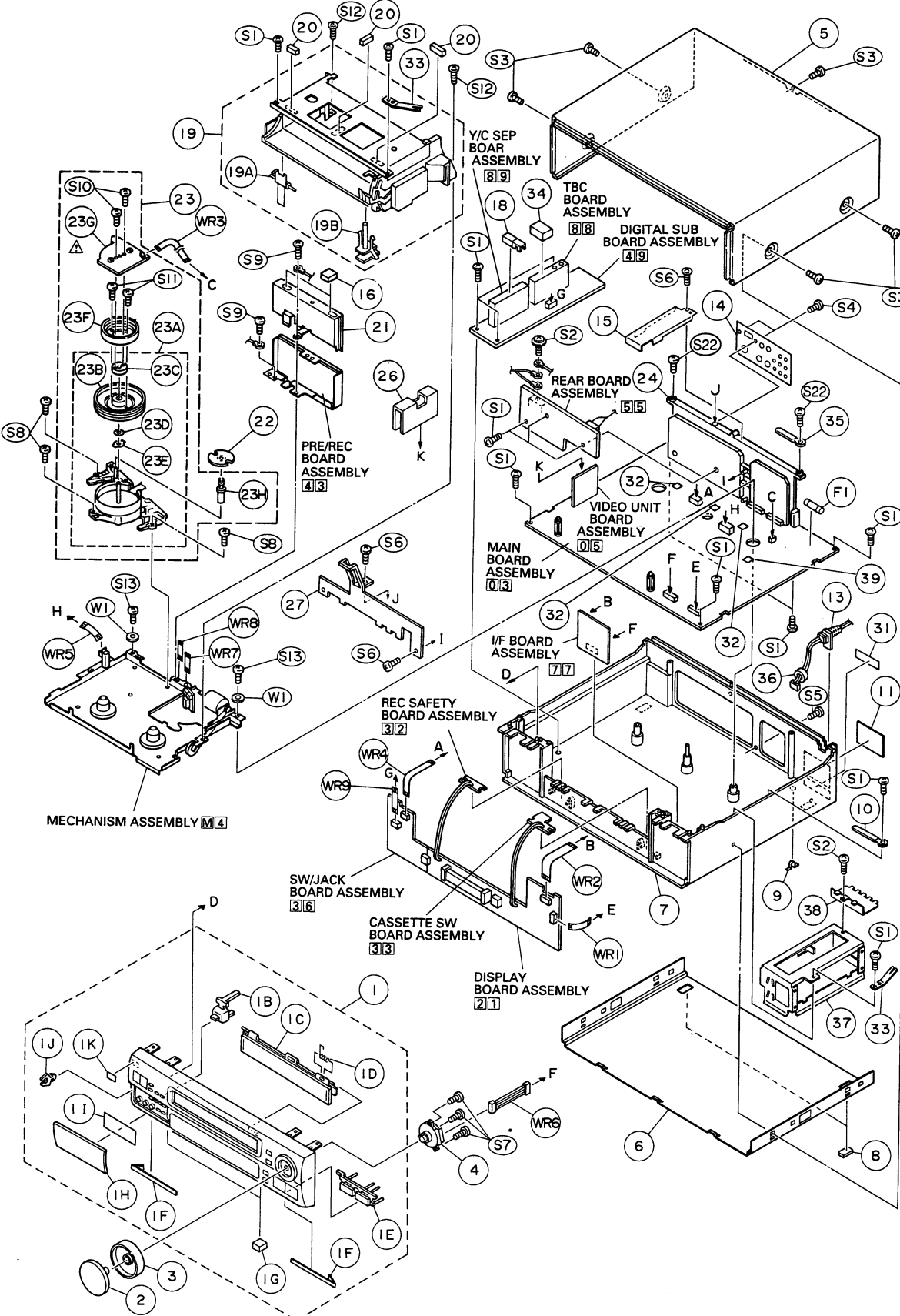
Each address may have an address error by one interval.



SECTION 5

EXPLODED VIEWS AND PARTS LIST

5.1 CABINET AND CHASSIS ASSEMBLY M2



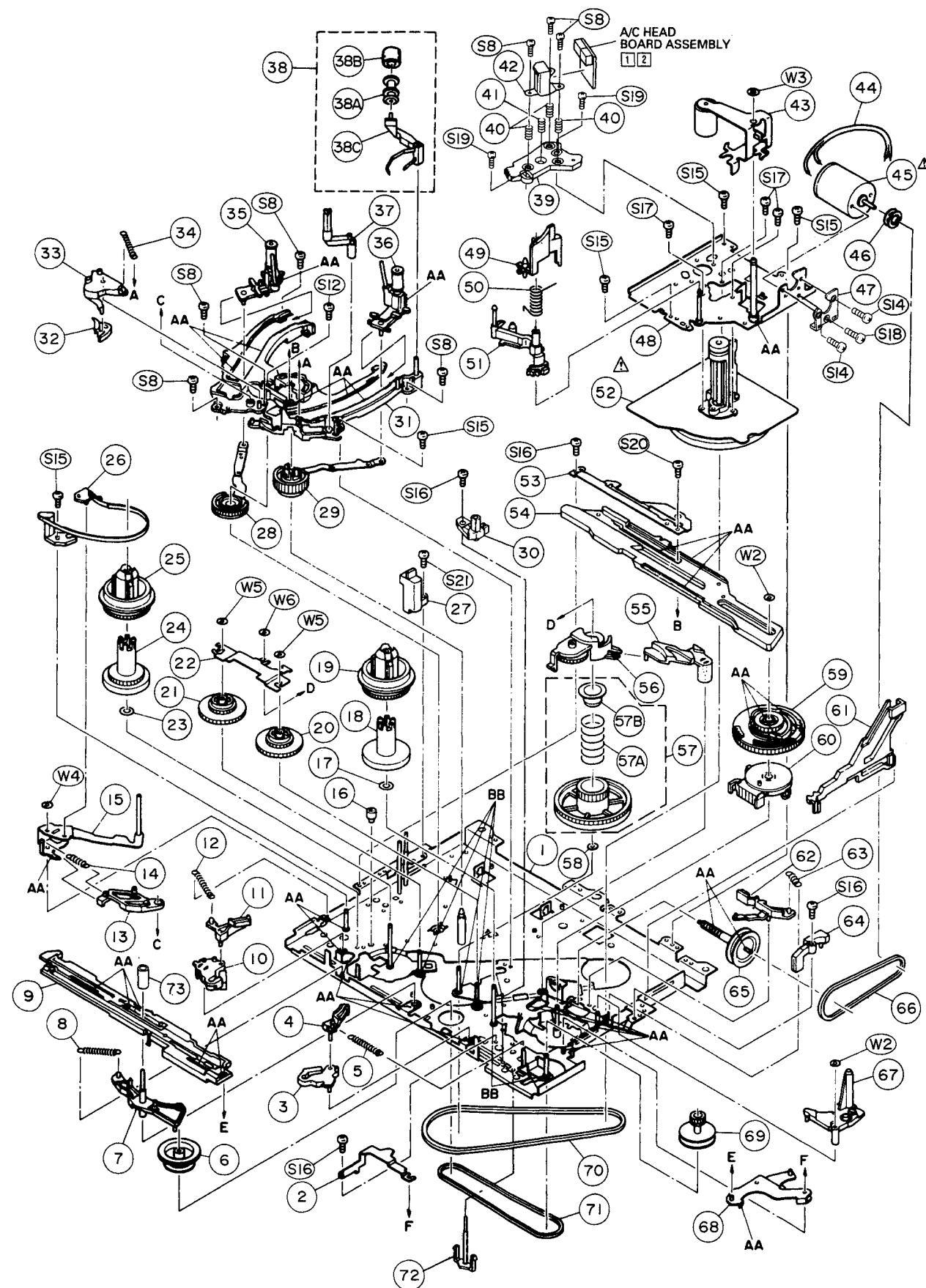
5.2 CABINET & CHASSIS ASSEMBLY LIST M2

M2MM

Symbol No.	Part No.	Part Name	Description
1	PQ11802AL	FRONT PANEL ASSEMBLY	R.A.EDIT START STOP, PLAY
1B	PQ35290	BUTTON (3)	
1C	PQ21818-28	CASSETTE DOOR	
1D	PQ46448	TORSION SPRING	
1E	PQ21820-11	BUTTON (2)	
1F	PQ46398-4	PLATE (FOOT)	
1G	PQ43013-7	FOOT	
1H	PQ21822-24	DOOR	
1I	PQ35557-2	PLATE (OPE)	
1J	PEME0960	PUSH OPEN UNIT	
1K	—	JVC MARK	
2	PQ35247-3	KNOB (JOG)	
3	PQ35295-3	KNOB (SHUTTLE)	
4	PEME0757-03	JOG SHUTTLE ASSEMBLY	
5	PRD11367-02	TOP COVER	
6	PQ11668-3	BOTTOM COVER	
7	PQ11666-5-14	BOTTOM CHASSIS	
8	PQ43013-3	FOOT	
9	PQ46412-2	EARTH SPRING	
10	PU49485-4	WIRE CLAMP	
11	—	RATING LABEL	FOR SR-S388E/S388EC FOR SR-S388EK
13	QMP4A10-170J5	POWER CORD	
13	QMP51K0-170	POWER CORD	
14	PRD39013-02	SHEET	
15	PRD44919	BRACKET	
16	PRD30030-150	PAD	
18	PRD44937A-03	CUSHION ASSEMBLY	
19	PUS29724A-5	CASSETTE HOUSING ASSEMBLY	
19A	PQ21766-1-1	CASSETTE SWITCH LEVER	
19B	PQ46359	CASSETTE SWITCH PIN	
20	PRD30030-147	PAD	
21	PQ21806-1-2	SHIELD CASE	
22	PQ44230	INERTIA PLATE	
23	PDV2390A	DRUM ASSEMBLY	
23A	PDM2261AB	DRUM SUB ASSEMBLY	
23B	PDM3353AU	UPPER DRUM ASSEMBLY	
23C	PDM4345A	COLLAR ASSEMBLY	
23D	PDM4050-9	WASHER	
23E	PDM4440A	BRUSH ASSEMBLY	
23F	PDZ0141-2	ROTOR ASSEMBLY	
23G	PDZ0141-1-2	STATOR ASSEMBLY	
23H	PDM4311A-1	ROLLER ASSEMBLY	
24	PRD19003	TERMINAL BOARD	
26	PRD39016-01-02	COVER (SHIELD)	
27	PRD49007-02	EARTH PLATE	
31	PU47397	LABEL	Refer to ELECTRICAL PARTS LIST PD1
32	—	PAD	
33	PQ41556	EARTH PLATE	
34	PRD30030-152	PAD	
35	PU49485-4	WIRE CLAMP	
36	PU43192-4	BINDER	FOR SR-S388EC
37	PRD20581-01-02	SHIELD CASE	
38	PRD44976	BRACKET	
39	PRD30030-154	PAD	
F1	QMF51E2-1R25	FUSE	

Symbol No.	Part No.	Part Name	Description
S1	SDSF3010Z	SCREW	M3×10
S2	DSP3008Z	SCREW	M3×6
S3	SXSF3012N	SCREW	M3×12
S4	SDSP3008M	SCREW	M3×8
S5	SDSF3010M	SCREW	M3×10
S6	SDSF3008Z	SCREW	M3×8
S7	SDSF2608Z	SCREW	M2.6×8
S8	SPST2608Z	SCREW	M2.6×8
S9	SDST2606Z	SCREW	M2.6×6
S10	SPSP2606Z	SCREW	M2.6×6
S11	SPSH2660Z	SCREW	M2.6×6
S12	SDST2612Z	SCREW	M2.6×12
S13	SDSF4012Z	SCREW	M4×12
S22	GBSF3010Z	SCREW	M3×10
W1	WLS4000N	WASHER	
W2	WNS3500Z	WASHER	
WR1	PW30802-0814	FFC WIRE	
WR2	PW30802-0510	FFC WIRE	
WR3	PW30803-0422	FFC WIRE	
WR4	PW30802-0538	FFC WIRE	
WR5	PW30701-36AAYY	WIRE ASSEMBLY	
WR6	PW30202-0772018	WIRE ASSEMBLY	
WR7	PW30705-12AAYY	WIRE ASSEMBLY	
WR8	PW30702-12AAYY	WIRE ASSEMBLY	
WR9	PW30802-0636	FFC WIRE	

5.3 MECHANISM ASSEMBLY M4



5.4 MECHANISM ASSEMBLY LIST M4

M4MM

Symbol No.	Part No.	Part Name	Description
1	PQ21680H	MAIN DECK ASSEMBLY	
2	PQ35217-1-2	CTL BRACKET 2	
3	PQ46308A-5	MAIN BRAKE ASSEMBLY (TAKE UP)	
4	PQ46309A-4	SUB BRAKE ASSEMBLY (TAKE UP)	
5	PQM30001-389102	TENSION SPRING	
6	PQ46354	CHANGE GEAR	
7	PQ46353A-2	CHANGE ARM ASSEMBLY	
8	PQM30001-386	TENSION SPRING	
9	PQ11659-1-12	SLIDE PLATE	
10	PQ46305B-3	MAIN BRAKE ASSEMBLY (SUPPLY)	
11	PQ46306A-3	SUB BRAKE ASSEMBLY (SUPPLY)	
12	PQM30001-393	TENSION SPRING	
13	PQ35012-1-3	TENSION ARM LEVER	
14	PQM30001-385109	TENSION SPRING	
15	PQ46303B-8	TENSION ARM ASSEMBLY	
16	PQ46302-1-3	ADJUST PIN	
17	PQM30018-69	SPACER	
18	PQ35015-1-1	SLIT DISC(TAKE UP)	
19	PQ21683-2-14	REEL DISK(TAKE UP)	
20	PQ46323A-1	CLUTCH UNIT(TAKE UP)	
21	PQ46316A-4	CLUTCH UNIT(SUPPLY)	
22	PQ35083-1-8	REEL BRACKET	
23	PQM30018-69	SPACER	
24	PQ35014-1-1	SLIT DISK(SUPPLY)	
25	PQ21683-1-14	REEL DISK (SUPPLY)	
26	PQ46298A-5	TENSION BAND ASSEMBLY	
27	PEHE0237	FULL ERASE HEAD	
28	PQ46332A-3	LOADING ARM ASSEMBLY (SUPPLY)	
29	PQ46337A-7	LOADING ARM ASSEMBLY (TAKE UP)	
30	PQ46474-1-2	S-SW HOLDER	
31	PQ11657-1-9	GUIDE RAIL	
32	PQ46345-1-2	TAKE UP HEAD	
33	PQ21686-1-3	TAKE UP LEVER ASSEMBLY	
34	PQM30001-387106	TENSION SPRING	
35	PQ46330A-3	POLE BASE ASSEMBLY (SUPPLY)	
36	PQ46331A-1	POLE BASE ASSEMBLY (TAKE UP)	
37	PQ21689-2	LED PRISM	
38	PQ46436A-1	CLEANER ASSEMBLY	
38A	PQ46418-1-2	CLEANER ROLLER	
38B	PQ46419-1-2	CLEANER	
38C	PQ35159-1-1	CLEANER ARM	
39	PQ35481	HEAD BASE	
40	PQM30002-192	COMPRESSION SPRING	
41	PQ46630	COMPRESSION SPRING	
42	PEHE0182	AUDIO CONTROL HEAD	
43	PQ46327A-3	PINCH ROLLER ARM ASSEMBLY	
44	PW30101-80AJ632	WIRE	
45	PU60628-4	LOADING MOTOR	
46	PQ43546-1-2	MOTOR PULLEY	
47	PQ46568-1-2	MOTOR GUIDE	
48	PQ46347E-16	SUB DECK ASSEMBLY	
49	PQ35030-1-5	LID GUIDE	
50	PQ46326-2	TORSION SPRING	
51	PQ46325B-9	GUIDE ARM ASSEMBLY	
52	PU61435-1-6	CAPSTAN MOTOR	

Symbol No.	Part No.	Part Name	Description
53 54 55 56 57	PQ35138-1-2 PQ11658-1-13 PQ35026-1-7 PQ46312B-9 PQ46497B-2	CONTROL BRACKET CONTROL PLATE IDLER LEVER IDLER ARM ASSEMBLY PULLEY ASSEMBLY	
57A 57B 58 59 60	PQM30002-233 PQ46311 PQM30018-69 PQ21684-1-3 PU61432-1-1	COMPRESSION SPRING SPRING CAP SPACER CONTROL CAM ROTARY ENCODER	
61 62 63 64 65	PQ21685-2-9 PQ46356C-3 PQM30001-384101 PQ21699-1-2 PQ46395B	PINCH PLATE CAPSTAN BRAKE ASSEMBLY TENSION SPRING WORM BEARING WORM GEAR	
66 67 68 69 70	PQM30003-39 PQ46342B-10 PQ46344A-2 PQ46355 PQM30003-38	BELT LEVER ASSEMBLY CHANGE LEVER ASSEMBLY CASSETTE GEAR BELT	
71 72 73 S8 S12	PQM30003-40 PQ46473-1-1 PRD44944 SPST2608Z SDST2612Z	BELT S-SW PIN COLLAR SCREW SCREW	M2.6 × 8 M2.6 × 12
S14 S15 S16 S17 S18	SPSP3005Z SDST2608Z SPST2606Z SPSG2608Z SDSP2604Z	SCREW SCREW SCREW SCREW SCREW	M3 × 5 M2.6 × 8 M2.6 × 6 M2.6 × 8 M2.6 × 4
S19 S20 S21 W2 W3	SDSP2606Z SPSF2608M SDST2610Z PQM30017-8 PQM30017-24	SCREW SCREW SCREW SLIT WASHER SLIT WASHER	M2.6 × 6 M2.6 × 8 M2.6 × 10
W4 W5 W6	PQM30017-47 PQM30017-51 Q03093-830	SLIT WASHER SLIT WASHER WASHER	

SECTION 6

ELECTRICAL PARTS LIST

SAFETY PRECAUTION:

Parts identified by the $\triangle$ symbol are critical for safety. Replace only with specified parts numbers.
For maximum reliability and performance, all other replacement parts should be identical to those specified.

NOTE:

- Parts not denoted by parts numbers are not supplied by JVC.
- Abbreviations in this list are as follows:

RESISTORS

In the "Description" column:

- All resistance values are in ohms (Ω).
- K expresses kilo-ohm (1,000 ohms, $k\Omega$).
- M expresses mega-ohm (10^6 ohms, $M\Omega$).

In the "Parts Name" column:

- COMP. RESISTOR : Composition Resistor
- U.F. RESISTOR : Non-inflammable Resistor
- O.M.F. RESISTOR : Oxide Metalized Film Resistor
- FUSI. RESISTOR : Fusible Resistor
- M.P. RESISTOR : Metal Plate Resistor
- M.G. RESISTOR : Metal Graze Resistor
- M.F. RESISTOR : Metal Film Resistor
- W.W. RESISTOR : Wire Wound Resistor

CAPACITORS

In the "Description" column:

- All capacitance values are in microfarad (μF) unless otherwise indicated.
- P expresses picofarad (10^{-12} farad, pF).

In the "Parts Name" column:

- TRIM. CAPACITOR : Trimmer Capacitor
- CER. CAPACITOR : Ceramic Capacitor
- E. CAPACITOR : Electrolytic Capacitor
- TAN. CAPACITOR : Tantalum Capacitor
- MPP CAPACITOR : Metalized Polypropylene Capacitor
- O.F. CAPACITOR : Oil Film Capacitor
- MPF CAPACITOR : Metalized Polyfilm Capacitor
- F.M. CAPACITOR : Film Mica Capacitor
- P.P. CAPACITOR : Polypropylene Capacitor
- P.S. CAPACITOR : Polystyrene Capacitor

Some electrical parts numbers listed on the manual are organized by new JVC standard parts system. The new parts numbers are different from previous numbers, even if the components are same.

NEW PARTS STANDARD

6.1 SWITCHING REGULATOR BOARD ASSEMBLY LIST 01 SLK2035-00A 01000000

Symbol No.	Part No.	Part Name	Description
IC51	L5431-T	I.C.(M)	SANYO
Q1	2SK212800SLT	FET	MATSUSHITA
Q2	2SC3616/MLK-T	TRANSISTOR	NEC
D1	1SS133K-T2	DIODE	ROHM
D2	AU01-T2	DIODE	SANKEN
D3	AU01-T2	DIODE	SANKEN
D4	RD27ES/B2/-T2	ZENER DIODE	NEC
D5	1SS133K-T2	DIODE	ROHM
D51	AU01Z-T2	DIODE	SANKEN
D52	FML-12S	DIODE	SANKEN
D53	FMB-24	DIODE	SANKEN
D55	RD15ES/B1/-T2	ZENER DIODE	NEC
D56	1SS133K-T2	DIODE	ROHM
D57	1SS133K-T2	DIODE	ROHM
D59	1SS131-T2	DIODE	ROHM
D61	1SS131-T2	DIODE	ROHM
D63	HZ27BP	ZENER DIODE	HITACHI
PC1	PC123FY2	P.H.C.	
R1	QRE141J-334Y	CAR.RESISTOR	330k 1/4W
R2	QRE141J-334Y	CAR.RESISTOR	330k 1/4W
R3	QRE141J-683Y	CAR.RESISTOR	68k 1/4W
R4	QRG02DJ-331X	O.M.F.RESISTOR	330 2W
R5	QRT01DJ-R39X	M.F.RESISTOR	0.39 1W
R6	QRE141J-821Y	CAR.RESISTOR	820 1/4W
R7	QRE141J-122Y	CAR.RESISTOR	1.2k 1/4W
R8	QRL027J-333	O.M.F.RESISTOR	33k 2W
R10	QRL027J-333	O.M.F.RESISTOR	33k 2W
R51	QRE141J-222Y	CAR.RESISTOR	2.2k 1/4W
R52	QRV144F-1212AY	C.M.F.RESISTOR	12.1k 1/4W
R53	QRV144F-3011AY	C.M.F.RESISTOR	3.01k 1/4W
R54	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R55	QRG02DJ-271X	O.M.F.RESISTOR	270 2W
R56	QRG02DJ-271X	O.M.F.RESISTOR	270 2W
R57	QRG01DJ-150X	O.M.F.RESISTOR	15 1W
C1	QCZ9079-222	CER.CAPACITOR	2200p
C2	QETC1HM-225Z	E.CAPACITOR	2.2 50V
C3	QFN31HJ-123Z	M.F.CAPACITOR	0.012 50V
C4	QCZ0212-472	CER.CAPACITOR	4700p
C5	QCB81HJ-121Y	CER.CAPACITOR	120p 50V
C6	QCZ0302-220Z	CER.CAPACITOR	22p
C7	QFV11HJ-104Z	TF. CAPACITOR	0.1 50V
C51	QEM91AM-107	E.CAPACITOR	100 10V
C52	QCZ0136-331Z	CER.CAPACITOR	330p
C53	QEM91AM-128	E.CAPACITOR	1200 10V
C54	QEM91CM-827	E.CAPACITOR	820 16V
C55	QEMN1EM-187Z	E.CAPACITOR	180 25V
C57	QCY31HK-472Z	CER.CAPACITOR	4700p 50V
C60	QEM91JM-226	E.CAPACITOR	22 63V
C61	QFN31HJ-103Z	M.F.CAPACITOR	0.01 50V
C62	QFN31HJ-223Z	M.F.CAPACITOR	0.022 50V
C63	QFN31HJ-683Z	M.F.CAPACITOR	0.068 50V
C64	QETC1CM-227Z	E.CAPACITOR	220 16V

Symbol No.	Part No.	Part Name	Description
C65	QETC1AM-337Z	E.CAPACITOR	330 10V
L51	PELN0696-330KZ	COIL	33μH
L52	PELN0696-330KZ	COIL	33μH
L53	PELN0696-330KZ	COIL	33μH
JP1	PEMC0712-105	PIN HEADER	5PIN
JP51	PEMC0712-109	PIN HEADER	9PIN
K1	SSV0939-001TP	FERRITE BEAD	
K2	SSV0939-001TP	FERRITE BEAD	
K3	QRE141J-OR0Y	CARBON RESISTOR	0 1/4W
K51	SSV0939-001TP	FERRITE BEAD	
K52	SSV0939-001TP	FERRITE BEAD	
K54	SSV0939-001TP	FERRITE BEAD	
T1	PELN1065	SW. TRANS	
HS1	PGZ02442	HEAR SINK	FOR Q1
SC1	SDSF3008ZY	SCREW	M3x8 FOR Q1
HS2	PGZ02442	HEAR SINK	FOR D52,D53
SC2	SDSF3008ZY	SCREW	M3x8 FOR D52,53

NEW PARTS STANDARD

6.2 MAIN BOARD ASSEMBLY LIST 03

SLK1043-01A

03

Symbol No.	Part No.	Part Name	Description
IC1	JCP0056	I.C.(M)	JVC
IC2	AN3969K	I.C.(M)	MATSUSHITA
IC3	BA6138	I.C.(M)	ROHM
IC101	BA7795LS	I.C.(M)	ROHM
IC171	M51132L	I.C.(M)	MITSUBISHI
IC172	BA15218	I.C.(M)	ROHM
IC261	TC7S08F-X	I.C.(M)	TOSHIBA
IC301	UPD6454CS-513	I.C.(M)	NEC
IC351	MM1117XS	I.C.(M)	MITSUMI
IC352	BA7623F-X	I.C.(M)	ROHM
IC353	BA7623F-X	I.C.(M)	ROHM
IC401	BU2884BS	I.C.(M)	ROHM
IC451	BA7039	I.C.(M)	ROHM
IC601	HD6473927F-1**	I.C.(M)	HITACHI
IC602	BR93LC56A	I.C.(M)	ROHM
IC603	S-80728AN-Z	I.C.(M)	SEIKO
IC604	TA7291S	I.C.(M)	TOSHIBA
IC607	M50253P	I.C.(M)	MITSUBISHI
IC608	TC4021BP	I.C.(M)	TOSHIBA
IC751	M37470E8-1**SP	I.C.(M)	MITSUBISHI
Q1	DTC114TUA-X	TRANSISTOR	ROHM
Q2	DTC114TUA-X	TRANSISTOR	ROHM
Q3	DTC114TUA-X	TRANSISTOR	ROHM
Q4	DTC114TUA-X	TRANSISTOR	ROHM
Q101	DTC114EUA-X	TRANSISTOR	ROHM
Q131	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q132	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q133	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q134	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q135	2SA933AS/RS/-T	TRANSISTOR	ROHM
Q171	DTC323TK-X	TRANSISTOR	ROHM
Q172	DTC323TK-X	TRANSISTOR	ROHM
Q201	DTC144WUA-X	TRANSISTOR	ROHM
Q203	DTC144WUA-X	TRANSISTOR	ROHM
Q221	DTC144EUA-X	TRANSISTOR	ROHM
Q222	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q223	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q241	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q242	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q243	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q244	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q261	DTC144WUA-X	TRANSISTOR	ROHM
Q262	DTC144EUA-X	TRANSISTOR	ROHM
Q263	DTC144WUA-X	TRANSISTOR	ROHM
Q264	DTA124EUA-X	TRANSISTOR	ROHM
Q265	DTC124EUA-X	TRANSISTOR	ROHM
Q301	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q302	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q351	DTA144EUA-X	TRANSISTOR	ROHM
Q401	DTC114EUA-X	TRANSISTOR	ROHM
Q601	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q602	PN268-NC/P1/	TRANSISTOR	MATSUSHITA
Q602	PQ46408-1-2	TRANSISTOR	JVC
Q603	PN268-NC/P1/	TRANSISTOR	MATSUSHITA
Q603	PQ46408-1-2	TRANSISTOR	JVC
Q604	DTC124EUA-X	TRANSISTOR	ROHM
Q605	DTC124EUA-X	TRANSISTOR	ROHM
Q606	DTC143EUA-X	TRANSISTOR	ROHM
Q851	2SD1266/QP/	TRANSISTOR	MATSUSHITA

Symbol No.	Part No.	Part Name	Description
Q852	2SC1740S/RS/-T	TRANSISTOR	ROHM
Q853	2SC3616/MLK/-T	TRANSISTOR	NEC
Q854	DTA114EUA-X	TRANSISTOR	ROHM
Q855	2SD2144S(UVW)-T	TRANSISTOR	ROHM
Q859	2SD1450/ST/-T	TRANSISTOR	MATSUSHITA
Q885	DTC143TUA-X	TRANSISTOR	ROHM
Q886	2SB1333-T	TRANSISTOR	ROHM
D1	HZM11NB1-W	ZENER DIODE	HITACHI
D2	HZM11NB1-W	ZENER DIODE	HITACHI
D3	HZM11NB1-W	ZENER DIODE	HITACHI
D4	HZM11NB1-W	ZENER DIODE	HITACHI
D5	HZM11NB1-W	ZENER DIODE	HITACHI
D6	HZM11NB1-W	ZENER DIODE	HITACHI
D101	RD6.2ES/B2/-T2	ZENER DIODE	NEC
D102	DAP202U-X	DIODE	ROHM
D201	DAP202U-X	DIODE	ROHM
D261	1SS356-X	DIODE	ROHM
D262	1SS133K-T2	DIODE	ROHM
D263	1SS133K-T2	DIODE	ROHM
D266	DA204U-X	DIODE	ROHM
D267	1SS133K-T2	DIODE	ROHM
D351	1SS133K-T2	DIODE	ROHM
D601	11ES2-T2	DIODE	INTER
D602	11ES2-T2	DIODE	INTER
D603	RD9.1ES/B2/-T2	ZENER DIODE	NEC
D604	1SS133K-T2	DIODE	ROHM
D605	1SS133K-T2	DIODE	ROHM
D606	1SS133K-T2	DIODE	ROHM
D607	1SS133K-T2	DIODE	ROHM
D608	1SS133K-T2	DIODE	ROHM
D609	SIR-381SB3FX1M	LE.DIODE	
D611	RB721Q-40-X	DIODE	ROHM
D612	1SS133K-T2	DIODE	ROHM
D801	10E6-FA8	DIODE	INTER
D802	10E6-FA8	DIODE	INTER
D803	10E6-FA8	DIODE	INTER
D804	10E6-FA8	DIODE	INTER
D851	11ES2-T2	DIODE	INTER
D852	11ES2-T2	DIODE	INTER
D853	11ES2-T2	DIODE	INTER
D862	RD5.1JS/B1/-T2	ZENER DIODE	NEC
D863	1SS133K-T2	DIODE	ROHM
D885	11ES2-T2	DIODE	INTER
R1	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R2	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R3	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R4	NRSA02J-392X	M.G.RESISTOR	3.9k 1/10W
R5	NRVA02D-153X	C.M.F.RESISTOR	15k 1/10W
R6	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R7	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R8	NRSA02J-334X	M.G.RESISTOR	330k 1/10W
R11	NRVA02D-113X	C.M.F.RESISTOR	11k 1/10W
R12	NRSA02J-123X	M.G.RESISTOR	12k 1/10W
R13	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R14	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R15	QRE141J-0R0Y	CAR.RESISTOR	0 1/4W

Symbol No.	Part No.	Part Name	Description	
R16	NRSA02J-101X	M.G.RESISTOR	100	1/10W
R17	NRSA02J-101X	M.G.RESISTOR	100	1/10W
R28	NRSA02J-182X	M.G.RESISTOR	1.8k	1/10W
R29	NRSA02J-392X	M.G.RESISTOR	3.9k	1/10W
R30	NRSA02J-392X	M.G.RESISTOR	3.9k	1/10W
R31	NRSA02J-392X	M.G.RESISTOR	3.9k	1/10W
R32	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R33	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R34	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R35	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R39	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R40	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R61	NRSA02J-393X	M.G.RESISTOR	39k	1/10W
R62	NRSA02J-203X	M.G.RESISTOR	20k	1/10W
R63	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R64	NRSA02J-393X	M.G.RESISTOR	39k	1/10W
R65	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R66	NRSA02J-203X	M.G.RESISTOR	20k	1/10W
R72	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R73	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R81	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R82	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R83	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R84	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R102	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R103	NRSA02J-123X	M.G.RESISTOR	12k	1/10W
R104	NRSA02J-562X	M.G.RESISTOR	5.6k	1/10W
R105	NRSA02J-393X	M.G.RESISTOR	39k	1/10W
R106	NRSA02J-122X	M.G.RESISTOR	1.2k	1/10W
R107	NRSA02J-153X	M.G.RESISTOR	15k	1/10W
R108	NRSA02J-561X	M.G.RESISTOR	560	1/10W
R109	NRSA02J-561X	M.G.RESISTOR	560	1/10W
R110	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R111	NRSA02J-151X	M.G.RESISTOR	150	1/10W
R112	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R113	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R114	NRSA02J-475X	M.G.RESISTOR	4.7M	1/10W
R115	QRE141J-221Y	CAR.RESISTOR	220	1/4W
R116	NRSA02J-222X	M.G.RESISTOR	2.2k	1/10W
R117	NRSA02J-221X	M.G.RESISTOR	220	1/10W
R118	NRSA02J-274X	M.G.RESISTOR	270k	1/10W
R119	NRSA02J-561X	M.G.RESISTOR	560	1/10W
R120	QRE141J-103Y	CAR.RESISTOR	10k	1/4W
R121	NRSA02J-223X	M.G.RESISTOR	22k	1/10W
R131	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R132	NRSA02J-682X	M.G.RESISTOR	6.8k	1/10W
R133	NRSA02J-562X	M.G.RESISTOR	5.6k	1/10W
R134	NRSA02J-153X	M.G.RESISTOR	15k	1/10W
R135	NRSA02J-3R3X	M.G.RESISTOR	3.3	1/10
R136	NRSA02J-153X	M.G.RESISTOR	15k	1/10W
R137	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R138	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R139	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R140	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R141	QRE141J-101Y	CAR.RESISTOR	100	1/4W
R142	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R143	QRE141J-151Y	CAR.RESISTOR	150	1/4W
R144	NRSA02J-3R3X	M.G.RESISTOR	3.3	1/10
R145	NRSA02J-473X	M.G.RESISTOR	47k	1/10W

Symbol No.	Part No.	Part Name	Description	
R146	NRSA02J-183X	M.G.RESISTOR	18k	1/10W
R147	QRE141J-0ROY	CAR.RESISTOR	0	1/4W
R148	QRE141J-0ROY	CAR.RESISTOR	0	1/4W
R171	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R172	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R173	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R174	NRSA02J-273X	M.G.RESISTOR	27k	1/10W
R175	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R176	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R177	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R178	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R179	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R180	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R181	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R182	NRSA02J-152X	M.G.RESISTOR	1.5k	1/10W
R183	NRSA02J-330X	M.G.RESISTOR	33	1/10W
R184	NRSA02J-330X	M.G.RESISTOR	33	1/10W
R185	NRSA02J-391X	M.G.RESISTOR	390	1/10W
R186	NRSA02J-151X	M.G.RESISTOR	150	1/10W
R201	NRSA02J-363X	M.G.RESISTOR	36k	1/10W
R202	NRSA02J-822X	M.G.RESISTOR	8.2k	1/10W
R203	NRSA02J-223X	M.G.RESISTOR	22k	1/10W
R205	NRSA02J-0ROX	M.G.RESISTOR	0	1/10W
R207	NRSA02J-224X	M.G.RESISTOR	220k	1/10W
R209	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R221	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R222	NRSA02J-0ROX	M.G.RESISTOR	0	1/10W
R223	NRSA02J-122X	M.G.RESISTOR	1.2k	1/10W
R224	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R225	NRSA02J-153X	M.G.RESISTOR	15k	1/10W
R226	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R227	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R228	NRSA02J-123X	M.G.RESISTOR	12k	1/10W
R229	NRSA02J-822X	M.G.RESISTOR	8.2k	1/10W
R230	NRSA02J-331X	M.G.RESISTOR	330	1/10W
R231	NRSA02J-270X	M.G.RESISTOR	27	1/10W
R232	NRSA02J-331X	M.G.RESISTOR	330	1/10W
R233	NRSA02J-101X	M.G.RESISTOR	100	1/10W
R241	NRSA02J-101X	M.G.RESISTOR	100	1/10W
R242	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R243	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R244	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R245	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R246	NRSA02J-222X	M.G.RESISTOR	2.2k	1/10W
R247	NRSA02J-681X	M.G.RESISTOR	680	1/10W
R248	NRSA02J-821X	M.G.RESISTOR	820	1/10W
R249	NRSA02J-0ROX	M.G.RESISTOR	0	1/10W
R250	NRSA02J-561X	M.G.RESISTOR	560	1/10W
R252	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R261	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R262	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R263	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R264	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R265	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R266	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R267	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R270	NRSA02J-562X	M.G.RESISTOR	5.6k	1/10W
R271	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R272	NRSA02J-102X	M.G.RESISTOR	1k	1/10W

[MAIN]

Symbol No.	Part No.	Part Name	Description
R273	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R274	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R275	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R276	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R301	NRSA02J-822X	M.G.RESISTOR	8.2k 1/10W
R302	NRSA02J-682X	M.G.RESISTOR	6.8k 1/10W
R303	NRSA02J-154X	M.G.RESISTOR	150k 1/10W
R305	NRSA02J-563X	M.G.RESISTOR	56k 1/10W
R306	NRSA02J-224X	M.G.RESISTOR	220k 1/10W
R307	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R308	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R309	NRSA02J-331X	M.G.RESISTOR	330 1/10W
R310	NRSA02J-680X	M.G.RESISTOR	68 1/10W
R311	NRSA02J-223X	M.G.RESISTOR	22k 1/10W
R312	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R313	NRSA02J-122X	M.G.RESISTOR	1.2k 1/10W
R314	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R315	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R316	NRSA02J-153X	M.G.RESISTOR	15k 1/10W
R317	NRSA02J-473X	M.G.RESISTOR	47k 1/10W
R318	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R319	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R351	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R352	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R353	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R354	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R355	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R356	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R357	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R358	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R359	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R360	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R361	NRSA02J-750X	M.G.RESISTOR	75 1/10W
R362	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R363	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R364	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R365	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R368	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R369	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R370	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R371	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R401	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R402	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R403	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R404	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R405	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R406	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R408	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R409	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R410	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R411	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R412	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R413	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R414	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R415	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R418	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R451	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R452	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R453	NRSA02J-102X	M.G.RESISTOR	1k 1/10W

Symbol No.	Part No.	Part Name	Description
R454	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R455	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R456	NRSA02J-124X	M.G.RESISTOR	120k 1/10W
R602	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R603	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R604	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R605	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R606	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R607	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R608	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R609	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R610	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R611	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R612	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R613	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R614	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R615	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R616	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R617	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R618	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R619	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R621	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R622	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R623	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R624	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R625	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R626	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R627	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R628	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R629	NRSA02J-221X	M.G.RESISTOR	220 1/10W
R630	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R631	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R632	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R633	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R634	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R635	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R636	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R637	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R638	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R639	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R641	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R643	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R644	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R645	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R646	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R647	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R648	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R649	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R650	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R651	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R652	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R654	NRSA02J-272X	M.G.RESISTOR	2.7k 1/10W
R655	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R658	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R659	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R661	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R662	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R663	NRSA02J-152X	M.G.RESISTOR	1.5k 1/10W
R664	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R665	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W

Symbol No.	Part No.	Part Name	Description	
R667	NRSA02J-221X	M.G.RESISTOR	220	1/10W
R668	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R669	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R671	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R672	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R673	NRSA02J-104X	M.G.RESISTOR	100k	1/10W
R674	NRSA02J-682X	M.G.RESISTOR	6.8k	1/10W
R675	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R676	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R682	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R684	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R685	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R686	NRSA02J-221X	M.G.RESISTOR	220	1/10W
R687	QRE141J-750Y	CAR.RESISTOR	75	1/4W
R688	NRSA02J-221X	M.G.RESISTOR	220	1/10W
R692	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R693	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R696	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R699	NRSA02J-104X	M.G.RESISTOR	100k	1/10W
R700	NRSA02J-121X	M.G.RESISTOR	120	1/10W
R701	NRSA02J-104X	M.G.RESISTOR	100k	1/10W
R702	NRSA02J-121X	M.G.RESISTOR	120	1/10W
R703	NRSA02J-121X	M.G.RESISTOR	120	1/10W
R704	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R705	NRSA02J-333X	M.G.RESISTOR	33k	1/10W
R706	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R707	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R708	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R709	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R710	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R712	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R715	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R716	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R717	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R718	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R719	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R720	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R721	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R722	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R723	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R724	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R725	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R726	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R727	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R751	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R752	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R753	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R754	NRSA02J-105X	M.G.RESISTOR	1M	1/10W
R755	NRSA02J-681X	M.G.RESISTOR	680	1/10W
R756	NRSA02J-104X	M.G.RESISTOR	100k	1/10W
R757	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R758	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R759	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R760	NRSA02J-223X	M.G.RESISTOR	22k	1/10W
R761	NRSA02J-223X	M.G.RESISTOR	22k	1/10W
R762	NRSA02J-223X	M.G.RESISTOR	22k	1/10W
R763	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R764	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R765	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R776	NRSA02J-102X	M.G.RESISTOR	1k	1/10W

Symbol No.	Part No.	Part Name	Description	
R777	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R778	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R779	NRSA02J-474X	M.G.RESISTOR	470k	1/10W
R801	QRE141J-OR0Y	CAR.RESISTOR	0	1/4W
R855	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R856	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R858	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R859	NRSA02J-102X	M.G.RESISTOR	1k	1/10W
R860	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R861	NRSA02J-103X	M.G.RESISTOR	10k	1/10W
R863	NRSA02J-511X	M.G.RESISTOR	510	1/10W
R864	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R865	QRE141J-OR0Y	CAR.RESISTOR	0	1/4W
R866	NRSA02J-471X	M.G.RESISTOR	470	1/10W
R868	NRSA02J-473X	M.G.RESISTOR	47k	1/10W
R872	NRSA02J-221X	M.G.RESISTOR	220	1/10W
R885	NRSA02J-562X	M.G.RESISTOR	5.6k	1/10W
R896	NRSA02J-222X	M.G.RESISTOR	2.2k	1/10W
R897	NRSA02J-472X	M.G.RESISTOR	4.7k	1/10W
R898	QRE141J-OR0Y	CAR.RESISTOR	0	1/4W
VR1	PGZ02461-104	V.RESISTOR	100k,	A LEV (L)
VR2	PGZ02461-104	V.RESISTOR	100k,	A LEV (R)
VR301	PGZ02461-333	V.RESISTOR	33k,	fH
VR801	PGZ02461-471	V.RESISTOR	470,	SWD 5V
C1	QEK61CM-476Z	E.CAPACITOR	47	16V
C2	NCB21EK-473X	CER.CAPACITOR	0.047	25V
C3	QEK61CM-106Z	E.CAPACITOR	10	16V
C4	QEK61CM-107Z	E.CAPACITOR	100	16V
C5	NCB21HK-153X	CER.CAPACITOR	0.015	50V
C6	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C7	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C8	QETC1AM-107Z	E.CAPACITOR	100	10V
C9	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C10	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C11	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C12	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C13	NCB21EK-473X	CER.CAPACITOR	0.047	25V
C14	QEK61HM-224Z	E.CAPACITOR	0.22	50V
C15	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C16	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C17	QEK61CM-107Z	E.CAPACITOR	100	16V
C18	NCB21HK-153X	CER.CAPACITOR	0.015	50V
C19	QEK61CM-107Z	E.CAPACITOR	100	16V
C20	QEK61CM-106Z	E.CAPACITOR	10	16V
C21	NCB21EK-473X	CER.CAPACITOR	0.047	25V
C22	QEK61CM-476Z	E.CAPACITOR	47	16V
C23	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C24	QEK61CM-476Z	E.CAPACITOR	47	16V
C25	QEK61HM-105Z	E.CAPACITOR	1	50V
C26	NCS21HJ-102X	CER.CAPACITOR	1000p	50V
C27	QEK61CM-476Z	E.CAPACITOR	47	16V
C28	QEK61CM-106Z	E.CAPACITOR	10	16V
C29	QEK61AM-107Z	E.CAPACITOR	100	10V
C30	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C35	QEP61CM-106Z	N.P.CAPACITOR	10	16V
C36	QEP61CM-106Z	N.P.CAPACITOR	10	16V
C38	QEK61CM-476Z	E.CAPACITOR	47	16V

[MAIN]

Symbol No.	Part No.	Part Name	Description
C39	QEK61CM-476Z	E.CAPACITOR	47 16V
C40	NCB21EK-124AY	CER.CAPACITOR	0.12 25V
C41	NCB21EK-124AY	CER.CAPACITOR	0.12 25V
C42	NCB21EK-823AY	CER.CAPACITOR	0.082 25V
C43	NCB21EK-823AY	CER.CAPACITOR	0.082 25V
C44	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C45	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C46	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C47	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C61	QEK61CM-106Z	E.CAPACITOR	10 16V
C62	QEK61CM-106Z	E.CAPACITOR	10 16V
C63	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C64	NDC21HJ-561X	CER.CAPACITOR	560p 50V
C67	QEK61CM-476Z	E.CAPACITOR	47 16V
C68	QEK61CM-476Z	E.CAPACITOR	47 16V
C69	NCB21EK-393X	CER.CAPACITOR	0.039 25V
C72	QDX11EK-104Z	CER.CAPACITOR	0.1 25V
C73	NCB21EK-393X	CER.CAPACITOR	0.039 25V
C81	QEK61CM-226Z	E.CAPACITOR	22 16V
C82	QEK61CM-226Z	E.CAPACITOR	22 16V
C83	QEK61CM-476Z	E.CAPACITOR	47 16V
C84	QEK61CM-106Z	E.CAPACITOR	10 16V
C85	QEK61CM-106Z	E.CAPACITOR	10 16V
C101	NCS21HJ-222X	CER.CAPACITOR	2200p 50V
C102	QEK61CM-476Z	E.CAPACITOR	47 16V
C103	NDC21HJ-681X	CER.CAPACITOR	680p 50V
C104	QEK61HM-105Z	E.CAPACITOR	1 50V
C105	QCC11EJ-153Z	CER.CAPACITOR	0.015 25V
C106	QCC11EJ-153Z	CER.CAPACITOR	0.015 25V
C107	QEK61HM-475Z	E.CAPACITOR	4.7 50V
C108	NDC21HJ-681X	CER.CAPACITOR	680p 50V
C109	NCB21HK-123X	CER.CAPACITOR	0.012 50V
C110	QEK61CM-226Z	E.CAPACITOR	22 16V
C111	QDX11EJ-223Z	CER.CAPACITOR	0.022 25V
C112	QEK61CM-226Z	E.CAPACITOR	22 16V
C113	QEK61HM-106Z	E.CAPACITOR	10 50V
C114	QDX31EJ-472Z	CER.CAPACITOR	4700p 25V
C115	QEK61CM-476Z	E.CAPACITOR	47 16V
C116	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C117	NCB21HK-182X	CER.CAPACITOR	1800p 50V
C131	NDC21HJ-331X	CER.CAPACITOR	330p 50V
C132	QFN31HJ-333Z	M.F.CAPACITOR	0.033 50V
C133	QEK61HM-106Z	E.CAPACITOR	10 50V
C134	NCB21HK-332X	CER.CAPACITOR	3300p 50V
C135	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C136	QFN31HJ-333Z	M.F.CAPACITOR	0.033 50V
C137	QEK61HM-106Z	E.CAPACITOR	10 50V
C138	NCB21HK-332X	CER.CAPACITOR	3300p 50V
C139	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C171	QEK61CM-106Z	E.CAPACITOR	10 16V
C172	QEK61CM-106Z	E.CAPACITOR	10 16V
C173	QEK61CM-226Z	E.CAPACITOR	22 16V
C174	QEK61CM-476Z	E.CAPACITOR	47 16V
C175	QEK61CM-106Z	E.CAPACITOR	10 16V
C176	QEK61CM-106Z	E.CAPACITOR	10 16V
C177	NCB21HK-272X	CER.CAPACITOR	2700p 50V
C178	QEK61EM-475Z	E.CAPACITOR	4.7 25V
C179	NCB21HK-272X	CER.CAPACITOR	2700p 50V
C180	QEK61EM-475Z	E.CAPACITOR	4.7 25V

Symbol No.	Part No.	Part Name	Description
C181	QEK60JM-107Z	E.CAPACITOR	100 6.3V
C182	QEK60JM-107Z	E.CAPACITOR	100 6.3V
C183	QEK61CM-476Z	E.CAPACITOR	47 16V
C184	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C185	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C186	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C187	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C201	QEK60JM-476Z	E.CAPACITOR	47 6.3V
C202	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C203	NDC21HJ-470X	CER.CAPACITOR	47p 50V
C204	NDC21HJ-100X	CER.CAPACITOR	10p 50V
C205	NDC21HJ-330X	CER.CAPACITOR	33p 50V
C207	NDC21HJ-270X	CER.CAPACITOR	27p 50V
C221	QEK60JM-476Z	E.CAPACITOR	47 6.3V
C222	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C223	NDC21HJ-680X	CER.CAPACITOR	68p 50V
C224	NDC21HJ-180X	CER.CAPACITOR	18p 50V
C225	NDC21HJ-151X	CER.CAPACITOR	150p 50V
C226	NDC21HJ-220X	CER.CAPACITOR	22p 50V
C227	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C228	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C229	NDC21HJ-821X	CER.CAPACITOR	820p 50V
C230	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C241	QEK60JM-476Z	E.CAPACITOR	47 6.3V
C242	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C243	NDC21HJ-390X	CER.CAPACITOR	39p 50V
C244	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C245	NDC21HJ-390X	CER.CAPACITOR	39p 50V
C246	NCB21HK-473X	CER.CAPACITOR	0.047 50V
C247	NDC21HJ-560X	CER.CAPACITOR	56p 50V
C248	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C261	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C262	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C263	NDC21HJ-330X	CER.CAPACITOR	33p 50V
C264	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C265	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C266	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C267	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C268	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C269	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C270	NDC21HJ-121X	CER.CAPACITOR	120p 50V
C271	NDC21HJ-181X	CER.CAPACITOR	180p 50V
C301	QEK61HM-335Z	E.CAPACITOR	3.3 50V
C302	NCB21HK-472X	CER.CAPACITOR	4700p 50V
C303	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C304	NDC21HJ-221X	CER.CAPACITOR	220p 50V
C305	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C306	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C307	QEK61HM-105Z	E.CAPACITOR	1 50V
C308	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C309	NDC21HJ-271X	CER.CAPACITOR	270p 50V
C310	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C311	QEK61HM-105Z	E.CAPACITOR	1 50V
C312	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C313	NDC21HJ-470X	CER.CAPACITOR	47p 50V
C314	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C315	NDC21HJ-220X	CER.CAPACITOR	22p 50V
C316	NDC21HJ-390X	CER.CAPACITOR	39p 50V
C317	NDC21HJ-390X	CER.CAPACITOR	39p 50V

Symbol No.	Part No.	Part Name	Description	
C318	QEK61CM-106Z	E.CAPACITOR	10	16V
C319	NDC21HJ-330X	CER.CAPACITOR	33p	50V
C320	NDC21HJ-220X	CER.CAPACITOR	22p	50V
C321	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C351	QETC1HM-106Z	E.CAPACITOR	10	50V
C352	QETC1HM-106Z	E.CAPACITOR	10	50V
C353	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C354	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C355	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C356	QETN0JM-108Z	E.CAPACITOR	1000	6.3V
C357	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C358	QETN0JM-108Z	E.CAPACITOR	1000	6.3V
C359	QETN0JM-108Z	E.CAPACITOR	1000	6.3V
C360	QEK60JM-476Z	E.CAPACITOR	47	6.3V
C361	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C362	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C363	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C364	QETC1CM-106Z	E.CAPACITOR	10	16V
C365	QEK60JM-476Z	E.CAPACITOR	47	6.3V
C366	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C367	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C368	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C371	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C372	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C373	QETC1AM-476Z	E.CAPACITOR	47	10V
C374	QETC1AM-476Z	E.CAPACITOR	47	10V
C401	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C402	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C403	NCB21EK-563X	CER.CAPACITOR	0.056	25V
C404	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C405	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C406	QEK61CM-106Z	E.CAPACITOR	10	16V
C407	QEK61CM-106Z	E.CAPACITOR	10	16V
C408	QEK60JM-107Z	E.CAPACITOR	100	6.3V
C409	NCB21HK-223X	CER.CAPACITOR	0.022	50V
C411	NCB21HK-222X	CER.CAPACITOR	2200p	50V
C412	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C413	NCB11CK-105X	CER.CAPACITOR	1	16V
C414	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C415	QEK61CM-106Z	E.CAPACITOR	10	16V
C416	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C417	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C451	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C452	QDX31CK-104Z	CER.CAPACITOR	0.1	16V
C453	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C454	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C455	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C456	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C457	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C458	QEK61CM-106Z	E.CAPACITOR	10	16V
C459	QFV11HJ-104Z	TF CAP	0.1	50V
C602	NDC21HJ-180X	CER.CAPACITOR	18p	50V
C604	QEK61AM-107Z	E.CAPACITOR	100	10V
C607	NDC21HJ-471X	CER.CAPACITOR	470p	50V
C610	QEK61CM-106Z	E.CAPACITOR	10	16V
C611	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C613	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C614	NCB21EK-473X	CER.CAPACITOR	0.047	25V
C616	QEK61CM-106Z	E.CAPACITOR	10	16V

Symbol No.	Part No.	Part Name	Description	
C617	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C622	QEK60JM-107Z	E.CAPACITOR	100	6.3V
C623	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C624	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C625	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C635	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C636	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C651	NCB21HK-102X	CER.CAPACITOR	1000p	50V
C652	NCB21HK-473X	CER.CAPACITOR	0.047	50V
C653	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C654	NDC21HJ-100X	CER.CAPACITOR	10p	50V
C655	QDX31CK-104Z	CER.CAPACITOR	0.1	16V
C751	NDC21HJ-220X	CER.CAPACITOR	22p	50V
C752	NCB21HK-103X	CER.CAPACITOR	0.01	50V
C753	NCB21EK-104X	CER.CAPACITOR	0.1	25V
C754	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C755	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C756	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C757	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C758	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C759	NDC21HJ-470X	CER.CAPACITOR	47p	50V
C760	QEK61HM-335Z	E.CAPACITOR	3.3	50V
C761	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C762	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C763	NDC21HJ-101X	CER.CAPACITOR	100p	50V
C801	QFZ9051-223	FILM CAPACITOR	0.022	
C802	QFZ9051-683	FILM CAPACITOR	0.068	
C803	QFZ9051-333	FILM CAPACITOR	0.033	
C810	PECA0738-107	E.CAPACITOR	100μ	
C862	QFN31HJ-102Z	M.F.CAPACITOR	1000p	50V
C863	QETC1AM-107Z	E.CAPACITOR	100	10V
C864	QETC1CM-226Z	E.CAPACITOR	22	16V
C865	QETC1AM-107Z	E.CAPACITOR	100	10V
C866	QETC1HM-106Z	E.CAPACITOR	10	50V
C867	QETC1CM-107Z	E.CAPACITOR	100	16V
C868	QETC1CM-476Z	E.CAPACITOR	47	16V
C870	QETC1CM-107Z	E.CAPACITOR	100	16V
VC601	NAT3112-400RZ	TRIM.CAPACITOR	40p	CPU CLK
L1	PU59988-3R9JY	COIL	3.9μ	
L2	PU59988-3R9JY	COIL	3.9μ	
L6	QQL01BJ-100Z	COIL	10μH	
L7	QQL01BJ-100Z	COIL	10μH	
L101	QQL25CJ-123Z	COIL	12mH	
L201	QQL01BJ-102Z	COIL	1mH	
L202	QQL071J-101Y	COIL	100μH	
L203	QQL071J-560Y	COIL	56μH	
L204	PU59988-151JY	COIL	150μH	
L205	QQL071J-560Y	COIL	56μH	
L221	PELN0975-101JZ	COIL	100μH	
L222	QQL071J-560Y	COIL	56μH	
L223	PU59988-470JY	COIL	47μH	
L224	QQL071J-101Y	COIL	100μH	
L241	PELN0975-101JZ	COIL	100μH	
L242	QQL01BJ-222Z	COIL	2.2mH	
L243	QQL071J-221Y	COIL	220μH	
L261	PU59988-1R0JY	COIL	1μH	
L262	QQL071J-390Y	COIL	39μH	

[MAIN]

Symbol No.	Part No.	Part Name	Description
L263	QQL071J-181Y	COIL	180 μ H
L264	QQL01BJ-1R0Z	COIL	1 μ H
L301	QQL01BJ-100Z	COIL	10 μ H
L302	PU59988-1R0JY	COIL	1 μ H
L303	PU59988-1R0JY	COIL	1 μ H
L304	QQL20BJ-220	COIL	22 μ H
L351	PELN0975-101JZ	COIL	100 μ H
L352	PELN0975-101JZ	COIL	100 μ H
L401	PU59988-470JY	COIL	47 μ H
L451	QQL071J-270Y	COIL	27 μ H
L601	QQL114M-R22Z	COIL	0.22 μ H
L602	QQL071J-100Y	COIL	10 μ H
L603	QQL01BJ-100Z	COIL	10 μ H
L604	QQL01BJ-100Z	COIL	10 μ H
L605	QQL01BJ-100Z	COIL	10 μ H
X301	PGZ02043	CRYSTAL	17.734475MHz
X601	PEVB0422	CRYSTAL	32.768kHz
CF601	PEVB0497	CERAMIC FILTER	10MHz
CF751	PEVB0340	CERAMIC FILTER	
CN1	SSV1209-S02	CONNECTOR	2PIN
CN101	PU60910-2	CONNECTOR	2PIN
CN102	PU60910-7	CONNECTOR	7PIN
CN103	PEMC1102-005	CONNECTOR	5PIN
CN104	PEMC1102-006	CONNECTOR	6PIN
CN201	PEMC1055-014	CONNECTOR	14PIN
CN204	PEMC0846-010	CONNECTOR	10PIN
CN205	PEMC0846-012	CONNECTOR	12PIN
CN206	PEMC0846-012	CONNECTOR	12PIN
CN207	PEMC0846-006	CONNECTOR	6PIN
CN208	PEMC1055-014	CONNECTOR	14PIN
CN402	PEMC1102-004	CONNECTOR	4PIN
CN601	PEMC1077	CONNECTOR	8PIN
CN602	PU61434-1-1	CONNECTOR	5PIN
CN603	PU60910-2	CONNECTOR	2PIN
CN604	PU59555-12	CONNECTOR	12PIN
CN605	PEMC1102-008	CONNECTOR	8PIN
CN606	PU59555-2	CONNECTOR	2PIN
CN801	PU60250-2	CONNECTOR	2PIN
CN802	PU59555-3	CONNECTOR	3PIN
TP1	SQMX001-001Z	TEST POINT	
TP2	SQMX001-001Z	TEST POINT	
TP201	SQMX001-001Z	TEST POINT	
TP202	SQMX001-001Z	TEST POINT	
TP203	SQMX001-001Z	TEST POINT	
TP204	SQMX001-001Z	TEST POINT	
TP205	SQMX001-001Z	TEST POINT	
TP206	SQMX001-001Z	TEST POINT	
TP208	SQMX001-001Z	TEST POINT	
TP209	SQMX001-001Z	TEST POINT	
TP210	SQMX001-001Z	TEST POINT	
TP211	SQMX001-001Z	TEST POINT	
TP301	SQMX001-001Z	TEST POINT	
TP351	SQMX001-001Z	TEST POINT	

Symbol No.	Part No.	Part Name	Description
TP352	SQMX001-001Z	TEST POINT	
TP353	SQMX001-001Z	TEST POINT	
TP401	SQMX001-001Z	TEST POINT	
TP601	SCV1880-001	TEST POINT	
TP602	SCV1880-001	TEST POINT	
TP603	SCV1880-001	TEST POINT	
TP604	SCV1880-001	TEST POINT	
TP605	SCV1880-001	TEST POINT	
TP692	SQMX001-001Z	TEST POINT	
TP801	SQMX001-001Z	TEST POINT	
TP802	SQMX001-001Z	TEST POINT	
TP803	SQMX001-001Z	TEST POINT	
TP804	SQMX001-001Z	TEST POINT	
TP805	SQMX001-001Z	TEST POINT	
CP401	ICP-N15-T	ICP	
CP601	ICP-N25-T	ICP	
CP801	ICP-N15-T	ICP	
CP802	ICP-N25-T	ICP	
CP803	ICP-N20-T	ICP	
FC801	SSV2497-001Z	FUSE HOLDER	
FC802	SSV2497-001Z	FUSE HOLDER	
JA1	PEMC1117	PIN JACK	INPUT
JA2	PGZ02465	PIN JACK	MONITOR OUT
JA3	PEMC1116	PIN JACK	OUTPUT
JA4	PEMC1118	S JACK	S OUTPUT
JA5	PEMC1118	S JACK	S INPUT
K1	PU60281-2Z	FERRITE BEADS	
K2	PU60281-2Z	FERRITE BEADS	
K3	PU60281-2Z	FERRITE BEADS	
K4	PELN0662	FERRITE BEADS	
K5	PELN0662	FERRITE BEADS	
K6	PELN0662	FERRITE BEADS	
K7	PELN0662	FERRITE BEADS	
LF801	PELN0885	LINE FILTER	
LF802	PELN0876	LINE FILTER	
PS601	PU61433	REEL SENSOR	
PS602	PU61433	REEL SENSOR	
T101	PELN0860	OSC.TRANSF.	
T102	PELN0861	OSC.TRANSF.	
PD1	PRD30030-158	PAD	
PD2	PRD30030-151	PAD	
SP1	PEME0947-01-02	SPACER	
HS1	PGZ02443	HEAT SINK	FOR Q851
SL1	PRD20580	SHIELD FRAME	

OLD PARTS NUMBER

6.3 VIDEO UNIT BOARD ASSEMBLY LIST 0 5

PB10966E-03

0 5

Symbol No.	Part No.	Part Name	Description
IC1	JCP0054	IC	JVC
IC2	M62353GP	IC	MITSUBISHI
IC3	NJM431U-XE	IC	JRC
IC4	VC2076MP-XE	IC	JVC
IC5	HA118092FP-XE	IC	HITACHI
IC6	93LC56/P	IC	MICROCHIP TEC.
IC7	TC4S81F	IC	TOSHIBA
Q1	2SA1576(QRS)	TRANSISTOR	ROHM
Q2	DTC144WU	TRANSISTOR	ROHM
Q5	2SC4081(QRS)	TRANSISTOR	ROHM
Q6	2SA1576(QRS)	TRANSISTOR	ROHM
Q7	DTA144EU	TRANSISTOR	ROHM
Q8	DTC144WU	TRANSISTOR	ROHM
Q9	DTC144WU	TRANSISTOR	ROHM
Q11	DTC144WU	TRANSISTOR	ROHM
Q12	DTC144WU	TRANSISTOR	ROHM
Q13	DTC144WU	TRANSISTOR	ROHM
D1	DAP202U	DIODE	ROHM
D3	1SS355	DIODE	ROHM
R1	NRSA63J-103N	RESISTOR	10K 1/16W
R2	NRSA63J-102N	RESISTOR	1.0K 1/16W
R3	NRSA63J-0RON	RESISTOR	0.0 1/16W
R5	NRSA63J-182N	RESISTOR	1.8K 1/16W
R6	NRSA63J-472N	RESISTOR	4.7K 1/16W
R7	NRSA63J-222N	RESISTOR	2.2K 1/16W
R8	NRSA63J-333N	RESISTOR	33K 1/16W
R9	NRVA63D-822N	MF RESISTOR	8.2K 1/16W
R10	NRVA63D-152N	MF RESESTOR	1.5K 1/16W
R11	NRSA63J-222N	RESISTOR	2.2K 1/16W
R12	NRSA63J-561N	RESISTOR	560 1/16W
R13	NRSA63J-222N	RESISTOR	2.2K 1/16W
R14	NRSA63J-821N	RESISTOR	820 1/16W
R17	NRSA63J-391N	RESISTOR	390 1/16W
R18	NRVA63D-391N	RESISTOR	390 1/16W
R19	NRVA63D-102N	MF RESISTOR	1.0K 1/16W
R22	NRSA63J-102N	RESISTOR	1.0K 1/16W
R23	NRSA63J-102N	RESISTOR	1.0K 1/16W
R24	NRSA63J-332N	RESISTOR	3.3K 1/16W
R25	NRSA63J-332N	RESISTOR	3.3K 1/16W
R26	NRSA63J-151N	RESISTOR	150 1/16W
R27	NRSA63J-162N	RESISTOR	1.6K 1/16W
R28	NRSA63J-391N	RESISTOR	390 1/16W
R29	NRSA63J-122N	RESISTOR	1.2K 1/16W
R30	NRVA63D-102N	MF RESISTOR	1.0K 1/16W
R31	NRVA63D-471N	RESISTOR	470 1/16W
R32	NRVA63D-102N	MF RESISTOR	1.0K 1/16W
R33	NRVA63D-152N	MF RESESTOR	1.5K 1/16W
R34	NRVA63D-332N	MF RESISTOR	3.3K 1/16W
R35	NRVA63D-332N	MF RESISTOR	3.3K 1/16W
R37	NRSA63J-0RON	RESISTOR	0.0 1/16W
R39	NRSA63J-103N	RESISTOR	10K 1/16W
R40	NRSA63J-103N	RESISTOR	10K 1/16W
R41	NRSA63J-823N	RESISTOR	82K 1/16W
R43	NRSA63J-273N	RESISTOR	27K 1/16W
R45	NRSA63J-181N	RESISTOR	180 1/16W
R46	NRSA63J-101N	RESISTOR	100 1/16W

Symbol No.	Part No.	Part Name	Description
R47	NRSA63J-102N	RESISTOR	1.0K 1/16W
R48	NRVA63D-243N	RESISTOR	24K 1/16W
R49	NRSA63J-101N	RESISTOR	100 1/16W
R50	NRSA63J-102N	RESISTOR	1.0K 1/16W
R51	NRSA63J-102N	RESISTOR	1.0K 1/16W
R52	NRSA63J-0RON	RESISTOR	0.0 1/16W
R53	NRSA63J-0RON	RESISTOR	0.0 1/16W
R54	NRSA63J-0RON	RESISTOR	0.0 1/16W
R55	NRVA63D-272N	MF RESISTOR	2.7K 1/16W
R56	NRVA63D-682N	MF RESISTOR	6.8K 1/16W
R57	NRVA63D-162N	MF RESISTOR	1.6K 1/16W
R58	NRVA63D-682N	MF RESISTOR	6.8K 1/16W
R59	NRSA63J-0RON	RESISTOR	0.0 1/16W
R60	NRSA63J-102N	RESISTOR	1.0K 1/16W
R61	NRSA63J-0RON	RESISTOR	0.0 1/16W
R62	NRSA63J-221N	RESISTOR	220 1/16W
R63	NRSA63J-103N	RESISTOR	10K 1/16W
R64	NRSA63J-475N	RESISTOR	4.7M 1/16W
R65	NRSA63J-0RON	RESISTOR	0.0 1/16W
R67	NRSA63J-0RON	RESISTOR	0.0 1/16W
R68	NRSA63J-0RON	RESISTOR	0.0 1/16W
R69	NRSA63J-101N	RESISTOR	100 1/16W
R70	NRSA63J-272N	RESISTOR	2.7K 1/16W
R73	NRSA63J-684N	RESISTOR	680K 1/16W
R74	NRSA63J-103N	RESISTOR	10K 1/16W
R75	NRSA63J-101N	RESISTOR	100 1/16W
R79	NRSA63J-222N	RESISTOR	2.2K 1/16W
R82	NRSA63J-103N	RESISTOR	10K 1/16W
R83	NRSA63J-103N	RESISTOR	10K 1/16W
R85	NRSA63J-472N	RESISTOR	4.7K 1/16W
R87	NRSA63J-182N	RESISTOR	1.8K 1/16W
C1	QETC1HM-224	E CAPACITOR	0.22 50V
C2	NCB31EK-103A	CAPACITOR	0.010 25V
C5	QETC1HM-105	E CAPACITOR	1.0 50V
C7	QETC1HM-104	E CAPACITOR	0.10 50V
C8	NCT08CH-330A	CAPACITOR	33P 50V
C10	NCB31CK-104A	CAPACITOR	0.10 16V
C11	NCB31EK-103A	CAPACITOR	0.010 25V
C12	QETC1HM-106	E CAPACITOR	10 50V
C13	QETC1HM-225	E CAPACITOR	2.2 50V
C14	NCB31CK-104A	CAPACITOR	0.10 16V
C15	QETC1HM-475	E CAPACITOR	4.7 50V
C16	NCB31EK-123A	CAPACITOR	0.012 25V
C17	QCYA1EK-563	CAPACITOR	0.056 25V
C18	QETC1HM-105	E CAPACITOR	1.0 50V
C19	QETC1CM-476	E CAPACITOR	47 16V
C20	NCB31EK-103A	CAPACITOR	0.010 25V
C21	NCB31EK-103A	CAPACITOR	0.010 25V
C22	NCT08CH-331A	CAPACITOR	330P 50V
C23	QCYA1EK-104	CAPACITOR	0.10 25V
C24	QETC1HM-334	E CAPACITOR	0.33 50V
C25	NCB31EK-103A	CAPACITOR	0.010 25V
C26	NCB31EK-103A	CAPACITOR	0.010 25V
C27	NCB31EK-103A	CAPACITOR	0.010 25V
C28	NCB31EK-103A	CAPACITOR	0.010 25V
C29	QETC1CM-476	E CAPACITOR	47 16V
C30	NCB31EK-103A	CAPACITOR	0.010 25V
C31	NCT08CH-161A	CAPACITOR	160P 50V

S7000EG

S7000EG

[VIDEO UNIT]

Symbol No.	Part No.	Part Name	Description
C32	NCS31HJ-120A	CAPACITOR	12P 50V
C33	QETC1HM-104	E CAPACITOR	0.10 50V
C35	NCB31EK-103A	CAPACITOR	0.010 25V
C36	NCB31EK-103A	CAPACITOR	0.010 25V
C37	QETC1HM-474	E CAPACITOR	0.47 50V
C38	QETC1HM-104	E CAPACITOR	0.10 50V
C39	QETC1HM-474	E CAPACITOR	0.47 50V
C40	NCB31EK-103A	CAPACITOR	0.010 25V
C41	QETC1HM-106	E CAPACITOR	10 50V
C42	QETC1HM-106	E CAPACITOR	10 50V
C43	QCC31CK-473	CAPACITOR	0.047 16V
C44	NCB31EK-103A	CAPACITOR	0.010 25V
C45	QETC1CM-226	E CAPACITOR	22 16V
C46	NCS31HJ-470A	CAPACITOR	47P 50V
C47	QETC1HM-225	E CAPACITOR	2.2 50V
C48	QETC1CM-226	E CAPACITOR	22 16V
C49	QETC1HM-225	E CAPACITOR	2.2 50V
C50	NCB31CK-104A	CAPACITOR	0.10 16V
C51	NCB31EK-103A	CAPACITOR	0.010 25V
C52	NCB31EK-103A	CAPACITOR	0.010 25V
C53	QETC1CM-476	E CAPACITOR	47 16V
C54	NCT06CH-101A	CAPACITOR	100P 50V
C55	NCT06CH-101A	CAPACITOR	100P 50V
C56	QETC1HM-475	E CAPACITOR	4.7 50V
C57	NCT08CH-301A	CAPACITOR	300P 50V
C58	NCT08CH-301A	CAPACITOR	300P 50V
C59	NCT06CH-181A	CAPACITOR	180P 50V
C60	NCT06CH-101A	CAPACITOR	100P 50V
C61	NCT08CH-271A	CAPACITOR	270P 50V
C62	NCT08CH-820A	CAPACITOR	82P 50V
C63	NCT08CH-221A	CAPACITOR	220P 50V
C64	NCT08CH-301A	CAPACITOR	300P 50V
C65	NCT08CH-301A	CAPACITOR	300P 50V
C66	NCB31EK-103A	CAPACITOR	0.010 25V
C67	QETC1CM-476	E CAPACITOR	47 16V
C69	NCB31EK-103A	CAPACITOR	0.010 25V
C70	QETC1HM-225	E CAPACITOR	2.2 50V
C71	QETC1HM-225	E CAPACITOR	2.2 50V
C72	NCT08CH-331A	CAPACITOR	330P 50V
C73	NCB31EK-103A	CAPACITOR	0.010 25V
C74	NCB31EK-103A	CAPACITOR	0.010 25V
C75	QETC1CM-476	E CAPACITOR	47 16V
C76	NCB31EK-223A	CAPACITOR	0.022 25V
C77	NCB31EK-103A	CAPACITOR	0.010 25V
C78	QETC1HM-105	E CAPACITOR	1.0 50V
C79	QETC1HM-106	E CAPACITOR	10 50V
C80	NCB31EK-103A	CAPACITOR	0.010 25V
C81	NCB31EK-103A	CAPACITOR	0.010 25V
C83	NCT08CH-5R0A	CAPACITOR	5.0P 50V
C84	NCB31EK-103A	CAPACITOR	0.010 25V
C85	NCB31EK-103A	CAPACITOR	0.010 25V
C86	NCB31EK-103A	CAPACITOR	0.010 25V
C87	NCB31EK-103A	CAPACITOR	0.010 25V
C88	NCB31EK-103A	CAPACITOR	0.010 25V
C89	NCB31EK-103A	CAPACITOR	0.010 25V
C92	NCT06CH-101A	CAPACITOR	100P 50V
C99	NCB31EK-103A	CAPACITOR	0.010 25V
C102	NCB31EK-103A	CAPACITOR	0.010 25V
C104	QETC1HM-224	E CAPACITOR	0.22 50V

S7000EG

Symbol No.	Part No.	Part Name	Description
C106	NCT08CH-121A	CAPACITOR	120P 50V
L1	PU59153-822J	COIL	8.2m
L2	PU48530-271K	COIL	270μ
L4	PU48530-331K	COIL	330μ
L5	PU48530-100J	COIL	10μ
L6	PU48530-270J	COIL	27μ
L7	PU48530-101K	COIL	100μ
L8	PU48530-101K	COIL	100μ
L9	PU48530-101K	COIL	100μ
LC1	PELN1165	LC TRA	
LC3	PELN1149	EQUALIZER	
LC4	PELN1171	LC TRAP	
X1	PEVB0550-Z	CRYSTAL	
K1	QRSA08J-0R0Y	RESISTOR	0.0 1/10W
CN1	PEMC0919-130K	PIN HEADER	13PIN
CN2	PEMC0919-130K	PIN HEADER	13PIN

S7000EG

OLD PARTS NUMBER

6.4 A/C HEAD BOARD ASSEMBLY LIST ☒ ☒

PB40068A-01

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Symbol No.	Part No.	Part Name	Description
CN1	PU60910-107	CONNECTOR	7PIN

S7000EG

NEW PARTS STANDARD

6.5 DISPLAY BOARD ASSEMBLY LIST 21

SLK1047-01-00A

21

Symbol No.	Part No.	Part Name	Description
IC1	UPD16311GC/K/	I.C.(M)	NEC
IC2	GP1U581X	I.C.(M)	
D2	1SS132K-T2	DIODE	ROHM
D3	1SS132K-T2	DIODE	ROHM
D8	SLR-342MG3F	L.E.D.	
D10	SLR-342MG3F	L.E.D.	
D11	RD4.7ES/B2/-T2	ZENER DIODE	NEC
D30	QRE141J-OR0Y	CARBON RESISTOR	0 1/4W
D31	11ES2-T2	DIODE	INTER
R1	QRE141J-333Y	CAR.RESISTOR	33k 1/4W
R2	QRE141J-333Y	CAR.RESISTOR	33k 1/4W
R3	QRE141J-333Y	CAR.RESISTOR	33k 1/4W
R4	QRE141J-333Y	CAR.RESISTOR	33k 1/4W
R5	QRE141J-272Y	CAR.RESISTOR	2.7k 1/4W
R6	QRE141J-272Y	CAR.RESISTOR	2.7k 1/4W
R7	QRE141J-561Y	CAR.RESISTOR	560 1/4W
R8	QRE141J-563Y	CAR.RESISTOR	56k 1/4W
R9	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R10	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R11	QRE141J-331Y	CAR.RESISTOR	330 1/4W
R12	QRE141J-331Y	CAR.RESISTOR	330 1/4W
R13	QRE141J-333Y	CAR.RESISTOR	33k 1/4W
R15	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R16	QRE141J-472Y	CAR.RESISTOR	4.7k 1/4W
R29	QRE141J-OR0Y	CAR.RESISTOR	0 1/4W
RA1	QRB045J-333	RESISTOR ARRAY	33k
C1	QEK61AM-476Z	E.CAPACITOR	47 10V
C2	QCFB1HZ-104Y	CER.CAPACITOR	0.1 50V
C3	QEK61HM-106Z	E.CAPACITOR	10 50V
C4	QCSB1HJ-330Y	CER.CAPACITOR	33p 50V
C5	QCSB1HJ-101Y	CER.CAPACITOR	100p 50V
C6	QEK61AM-227Z	E.CAPACITOR	220 10V
C10	QCFB1HZ-473Y	CER.CAPACITOR	0.047 50V
C11	QCFB1HZ-473Y	CER.CAPACITOR	0.047 50V
C20	QCSB1HJ-102Y	CER.CAPACITOR	1000p 50V
L1	QQL01BJ-101Z	COIL	100μH
S5	PU60392-2-2Z	TACT SW	PAUSE
S6	PU60392-2-2Z	TACT SW	REC
S7	PU60392-2-2Z	TACT SW	PLAY
S8	PU60392-2-2Z	TACT SW	STOP
S25	PU60392-2-2Z	TACT SW	A.DUB
S27	PU60392-2-2Z	TACT SW	C.RESET
CN3	PEMC1102-108	CONNECTOR	8PIN
CN4	PEMC0889-013	CONNECTOR	13PIN
CN5	PEMC1102-105	CONNECTOR	5PIN
TP1	SQMX001-001Z	TEST POINT	
TP2	SQMX001-001Z	TEST POINT	
TP3	SQMX001-001Z	TEST POINT	

Symbol No.	Part No.	Part Name	Description
FDP	PEDP0106-03	FDP	
HD1	PQ34668	FDP HOLDER(L)	
HD2	PQ34669	FDP HOLDER(R)	
HD3	PQM30038-6	LED HOLDER	FOR D8, D10

NEW PARTS STANDARD

6.6 REC SAFETY BOARD ASSEMBLY LIST 32

SLK1047-04-00A

32

Symbol No.	Part No.	Part Name	Description
S401	PESW0589	SWITCH	

NEW PARTS STANDARD

6.7 CASSETTE SW BOARD ASSEMBLY LIST 33

SLK1047-03-00A

33

Symbol No.	Part No.	Part Name	Description
S301	PU61320	SWITCH	CASSETTE DET.
S302	PU61320	SWITCH	S CASSETTE DET.

NEW PARTS STANDARD

6.8 SW/JACK BOARD ASSEMBLY LIST 3 6

SLK1047-02-00A

3 6 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
D201	QCB1HJ-102Y	C CAP	1000P 50V
D202	QDYB1CM-103Y	C CAP	0.01 16V
D223	1SS132K-T2	DIODE	ROHM
D224	1SS132K-T2	DIODE	ROHM
D225	1SS132K-T2	DIODE	ROHM
D226	1SS132K-T2	DIODE	ROHM
D231	SLR-342VC3F	L.E.D.	
D232	SLR-342DC3F	L.E.D.	
R218	QRE141J-331Y	CAR.RESISTOR	330 1/4W
R219	QRE141J-331Y	CAR.RESISTOR	330 1/4W
VR201	PGZ02355	V.RESISTOR	REC VR(L)
VR202	PGZ02355	V.RESISTOR	REC VR(R)
VR203	PERE0514	V.RESISTOR	HP VR
C201	QCFB1HZ-104Y	CER.CAPACITOR	0.1 50V
C202	QCFB1HZ-104Y	CER.CAPACITOR	0.1 50V
L201	PU59988-3R9JY	COIL	3.9μ
L202	PU59988-3R9JY	COIL	3.9μ
S209	PU60392-2-2Z	TACT SW	SELECT
S210	PU60392-2-2Z	TACT SW	SET
S211	PU60392-2-2Z	TACT SW	POWER
S212	PU60392-2-2Z	TACT SW	EJECT
S213	PU60392-2-2Z	TACT SW	HiFi SEL
S214	PU60392-2-2Z	TACT SW	A/O SEL
S215	PU60392-2-2Z	TACT SW	R.A.EDIT
S216	PU60392-2-2Z	TACT SW	MENU
S217	PGZ02224	SLIDE SWITCH	Y/C LINE
S218	PGZ02225	SLIDE SWITCH	REMOTE
S219	PGZ02224	SLIDE SWITCH	TBC
CN201	PEMC1102-105	CONNECTOR	5PIN
CN202	PEMC0825-013	CONNECTOR	13PIN
CN203	PEMC1102-106	CONNECTOR	6PIN
JA201	PGZ02223	MINI JACK	HEAD PHONE
K201	PU60281-2Z	FERRITE BEADS	
K202	QRE141J-OR0Y	CARBON RESISTOR	0 1/4W
HD1	PQM30038-1-2	LED HOLDER	

OLD PARTS NUMBER

6.9 PRE/REC BOARD ASSEMBLY LIST 4 3

PB10965E-02

4 3 □ □ □ □ □ □

Symbol No.	Part No.	Part Name	Description
IC1	JCP0047-WE	IC	JVC
IC201	AN3380NK	IC	MATSUSHITA
Q1	2SC4081(QRS)	TRANSISTOR	ROHM
Q2	2SA1576(QR)	TRANSISTOR	ROHM
Q3	2SC4081(QRS)	TRANSISTOR	ROHM
Q4	2SC4081(QRS)	TRANSISTOR	ROHM
Q5	2SA1576(QR)	TRANSISTOR	ROHM
Q6	2SA1576(QR)	TRANSISTOR	ROHM
Q7	2SC4081(QRS)	TRANSISTOR	ROHM
Q8	2SC4081(QRS)	TRANSISTOR	ROHM
Q9	2SC4081(QRS)	TRANSISTOR	ROHM
Q10	DTA144EU	TRANSISTOR	ROHM
Q11	DTC144WU	TRANSISTOR	ROHM
Q18	DTC143EU	TRANSISTOR	ROHM
Q19	2SC4081(QRS)	TRANSISTOR	ROHM
Q20	2SA1576(QR)	TRANSISTOR	ROHM
Q21	2SC4081(QRS)	TRANSISTOR	ROHM
Q101	2SC4081(QRS)	TRANSISTOR	ROHM
Q102	2SC4081(QRS)	TRANSISTOR	ROHM
Q103	2SC4081(QRS)	TRANSISTOR	ROHM
Q104	DTA144EU	TRANSISTOR	ROHM
Q105	2SC4081(QRS)	TRANSISTOR	ROHM
Q106	DTA124EU	TRANSISTOR	ROHM
Q108	DTC144WU	TRANSISTOR	ROHM
Q109	DTC124EU	TRANSISTOR	ROHM
Q110	2SA1576(QR)	TRANSISTOR	ROHM
Q111	2SC4081(QRS)	TRANSISTOR	ROHM
Q112	2SA1576(QR)	TRANSISTOR	ROHM
Q113	2SC4081(QRS)	TRANSISTOR	ROHM
Q114	2SA1576(QR)	TRANSISTOR	ROHM
Q115	2SC4081(QRS)	TRANSISTOR	ROHM
Q116	2SC4081(QRS)	TRANSISTOR	ROHM
Q119	2SC4081(QRS)	TRANSISTOR	ROHM
Q201	DTC124TU	TRANSISTOR	ROHM
Q202	DTC124TU	TRANSISTOR	ROHM
Q203	DTC124EU	TRANSISTOR	ROHM
Q205	DTA114EU	TRANSISTOR	ROHM
Q206	DTC114WU	TRANSISTOR	ROHM
Q207	DTC124EU	TRANSISTOR	ROHM
Q210	DTC144WU	TRANSISTOR	ROHM
Q211	DTA114EU	TRANSISTOR	ROHM
Q301	2SA933S(Q)	TRANSISTOR	ROHM
Q302	2SA933S(Q)	TRANSISTOR	ROHM
Q303	DTC124EU	TRANSISTOR	ROHM
Q304	2SA933S(Q)	TRANSISTOR	ROHM
D2	1SS355	DIODE	ROHM
D7	1SS355	DIODE	ROHM
D101	DAN202U	DIODE	ROHM
D102	1SS355	DIODE	ROHM
D103	DAN202U	DIODE	ROHM
D203	1SS355	DIODE	ROHM
D204	1SS355	DIODE	ROHM
R3	QRSA08J-271YN	RESISTOR	270 1/10W
R4	QRSA08J-430YN	RESISTOR	43 1/10W
R5	QRSA08J-300YN	RESISTOR	30 1/10W

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Symbol No.	Part No.	Part Name	Description
R6	QRSA08J-271YN	RESISTOR	270 1/10W
R7	QRSA08J-330YN	RESISTOR	33 1/10W
R8	QRSA08J-300YN	RESISTOR	30 1/10W
R9	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R10	QRSA08J-122YN	RESISTOR	1.2K 1/10W
R11	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R12	NVP1311-153N	V RESISTOR	15K REC FM LEV
R13	QRSA08J-273YN	RESISTOR	27K 1/10W
R14	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R15	QRSA08J-301YN	RESISTOR	300 1/10W
R16	QRSA08J-151YN	RESISTOR	150 1/10W
R17	QRSA08J-152YN	RESISTOR	1.5K 1/10W
R18	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R19	NRVA62D-203N	RESISTOR	20K 1/16W
R20	QRSA08J-122YN	RESISTOR	1.2K 1/10W
R21	QRSA08J-152YN	RESISTOR	1.5K 1/10W
R22	QRSA08J-472YN	RESISTOR	4.7K 1/10W
R23	QRSA08J-104YN	RESISTOR	100K 1/10W
R24	QRSA08J-472YN	RESISTOR	4.7K 1/10W
R25	QRSA08J-512YN	RESISTOR	5.1K 1/10W
R26	QRSA08J-272YN	RESISTOR	2.7K 1/10W
R27	QRSA08J-103YN	RESISTOR	10K 1/10W
R28	QRSA08J-822YN	RESISTOR	8.2K 1/10W
R30	QRSA08J-681YN	RESISTOR	680 1/10W
R31	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R32	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R33	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R34	QRSA08J-301YN	RESISTOR	300 1/10W
R35	QRSA08J-222YN	RESISTOR	2.2K 1/10W
R36	QRSA08J-222YN	RESISTOR	2.2K 1/10W
R37	QRSA08J-0R0Y	RESISTOR	0.0 1/10W
R38	QRSA08J-472YN	RESISTOR	4.7K 1/10W
R39	QRSA08J-162YN	RESISTOR	1.6K 1/10W
R40	QRSA08J-152YN	RESISTOR	1.5K 1/10W
R41	QRSA08J-272YN	RESISTOR	2.7K 1/10W
R42	QRSA08J-222YN	RESISTOR	2.2K 1/10W
R43	QRSA08J-122YN	RESISTOR	1.2K 1/10W
R44	QRSA08J-101YN	RESISTOR	100 1/10W
R48	QRSA08J-681YN	RESISTOR	680 1/10W
R64	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R101	QRSA08J-152YN	RESISTOR	1.5K 1/10W
R102	QRSA08J-471YN	RESISTOR	470 1/10W
R103	QRSA08J-183YN	RESISTOR	18K 1/10W
R104	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R105	QRSA08J-183YN	RESISTOR	18K 1/10W
R106	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R107	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R108	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R109	QRSA08J-152YN	RESISTOR	1.5K 1/10W
R110	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R111	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R112	QRSA08J-561YN	RESISTOR	560 1/10W
R113	QVPA603-222Z	V RESISTOR	2.2K, S-SP EQ
R114	QVPA603-222Z	V RESISTOR	2.2K, S-EP EQ
R115	QRSA08J-331YN	RESISTOR	330 1/10W
R116	QRSA08J-103YN	RESISTOR	10K 1/10W
R117	QRSA08J-752YN	RESISTOR	7.5K 1/10W
R118	QRSA08J-333YN	RESISTOR	33K 1/10W
R119	QRSA08J-562YN	RESISTOR	5.6K 1/10W

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Symbol No.	Part No.	Part Name	Description
R120	QRSA08J-473YN	RESISTOR	47K 1/10W
R121	QRSA08J-561YN	RESISTOR	560 1/10W
R122	QRSA08J-821YN	RESISTOR	820 1/10W
R123	QRSA08J-821YN	RESISTOR	820 1/10W
R124	QRSA08J-822YN	RESISTOR	8.2K 1/10W
R125	QRSA08J-333YN	RESISTOR	33K 1/10W
R126	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R127	QRSA08J-471YN	RESISTOR	470 1/10W
R128	QRSA08J-471YN	RESISTOR	470 1/10W
R129	QRSA08J-471YN	RESISTOR	470 1/10W
R130	QRSA08J-103YN	RESISTOR	10K 1/10W
R131	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R132	QRSA08J-273YN	RESISTOR	27K 1/10W
R133	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R134	QRSA08J-561YN	RESISTOR	560 1/10W
R135	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R136	QRSA08J-561YN	RESISTOR	560 1/10W
R137	QRSA08J-331YN	RESISTOR	330 1/10W
R138	QRSA08J-222YN	RESISTOR	2.2K 1/10W
R139	QRSA08J-561YN	RESISTOR	560 1/10W
R140	QRSA08J-302YN	RESISTOR	3.0K 1/10W
R141	QRSA08J-562YN	RESISTOR	5.6K 1/10W
R142	QRSA08J-392YN	RESISTOR	3.9K 1/10W
R149	QRSA08J-151YN	RESISTOR	150 1/10W
R150	QRSA08J-182YN	RESISTOR	1.8K 1/10W
R151	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R201	QRSA08J-223YN	RESISTOR	22K 1/10W
R202	QRSA08J-101YN	RESISTOR	100 1/10W
R203	QRSA08J-101YN	RESISTOR	100 1/10W
R204	QRSA08J-274YN	RESISTOR	270K 1/10W
R205	QRSA08J-102YN	RESISTOR	1.0K 1/10W
R209	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R214	QRSA08J-560YN	RESISTOR	56 1/10W
R215	QRSA08J-560YN	RESISTOR	56 1/10W
R216	QVPA603-331Z	V RESISTOR	330, A REC FM
R217	QRSA08J-153YN	RESISTOR	15K 1/10W
R218	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R219	QRSA08J-222YN	RESISTOR	2.2K 1/10W
R220	QRSA08J-332YN	RESISTOR	3.3K 1/10W
R301	QRSA08J-221YN	RESISTOR	220 1/10W
R302	QRSA08J-471YN	RESISTOR	470 1/10W
R303	QRSA08J-471YN	RESISTOR	470 1/10W
R304	QRSA08J-473YN	RESISTOR	47K 1/10W
R305	QRSA08J-683YN	RESISTOR	68K 1/10W
R306	QRSA08J-393YN	RESISTOR	39K 1/10W
R307	QRSA08J-472YN	RESISTOR	4.7K 1/10W
R308	QRSA08J-473YN	RESISTOR	47K 1/10W
C1	QCYA1EK-104	CAPACITOR	0.10 25V
C2	QCFA1HZ-103	CAPACITOR	0.010 50V
C3	QEK60JM-107	E CAPACITOR	100 6.3V
C4	QCFA1HZ-103	CAPACITOR	0.010 50V
C5	QCFA1HZ-103	CAPACITOR	0.010 50V
C12	QCTA1CH-100	CAPACITOR	10P
C13	QCFA1EZ-104	CAPACITOR	0.10 25V
C14	QCYA1EK-473	CAPACITOR	0.047 25V
C15	QCYA1EK-223	CAPACITOR	0.022 25V
C18	QCYA1EK-223	CAPACITOR	0.022 25V
C19	QCYA1EK-473	CAPACITOR	0.047 25V

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[PRE/REC]

Symbol No.	Part No.	Part Name	Description
C20	QCTA1CH-100	CAPACITOR	10P
C21	QCFA1EZ-104	CAPACITOR	0.10 25V
C22	QCFA1EZ-104	CAPACITOR	0.10 25V
C23	QCFA1EZ-104	CAPACITOR	0.10 25V
C26	QCFA1EZ-104	CAPACITOR	0.10 25V
C27	QCFA1EZ-104	CAPACITOR	0.10 25V
C28	QEK60JM-476	E CAPACITOR	47 6.3V
C29	QCFA1HZ-103	CAPACITOR	0.010 50V
C30	QCFA1EZ-104	CAPACITOR	0.10 25V
C31	QCFA1HZ-103	CAPACITOR	0.010 50V
C32	QCYA1HJ-222	CAPACITOR	2200P 50V
C33	QCYA1HJ-222	CAPACITOR	2200P 50V
C34	QCFA1HZ-103	CAPACITOR	0.010 50V
C35	QCFA1HZ-103	CAPACITOR	0.010 50V
C36	QCFA1CZ-105	CAPACITOR	1.0 16V
C37	QCTA1CH-271	CAPACITOR	270P
C38	QCFA1HZ-103	CAPACITOR	0.010 50V
C39	QCTA1CH-560	CAPACITOR	56P
C40	QCFA1CZ-474	CAPACITOR	0.47 16V
C41	QCFA1HZ-103	CAPACITOR	0.010 50V
C42	QEKFOJM-476	E CAPACITOR	47 6.3V
C43	QCFA1HZ-103	CAPACITOR	0.010 50V
C44	QCFA1HZ-103	CAPACITOR	0.010 50V
C45	QEKF1CM-476	E CAPACITOR	47 16V
C46	QCTA1CH-331	CAPACITOR	330P
C47	QCTA1CH-101	CAPACITOR	100P
C48	QCFA1HZ-103	CAPACITOR	0.010 50V
C49	QCTA1CH-121	CAPACITOR	120P
C50	QCTA1CH-151	CAPACITOR	150P
C52	QCFA1EZ-104	CAPACITOR	0.10 25V
C53	QCTA1CH-121	CAPACITOR	120P
C54	QCTA1CH-121	CAPACITOR	120P
C55	QCTA1CH-331	CAPACITOR	330P
C60	QCTA1CH-361	CAPACITOR	360P
C68	QCFA1HZ-103	CAPACITOR	0.010 50V
C69	QCFA1HZ-103	CAPACITOR	0.010 50V
C70	QCTA1CH-151	CAPACITOR	150P
C74	QCYA1EK-104	CAPACITOR	0.10 25V
C101	QCFA1HZ-103	CAPACITOR	0.010 50V
C102	QCFA1HZ-103	CAPACITOR	0.010 50V
C103	QCTA1CH-101	CAPACITOR	100P
C104	QCTA1CH-101	CAPACITOR	100P
C105	QCTA1CH-270	CAPACITOR	27P
C106	QCFA1HZ-103	CAPACITOR	0.010 50V
C107	QCTA1CH-470	CAPACITOR	47P
C108	QCTA1CH-390	CAPACITOR	39P
C109	QCFA1HZ-103	CAPACITOR	0.010 50V
C110	QCFA1HZ-103	CAPACITOR	0.010 50V
C111	QCTA1CH-470	CAPACITOR	47P
C112	QCFA1HZ-103	CAPACITOR	0.010 50V
C113	QCTA1CH-470	CAPACITOR	47P
C115	QCTA1CH-390	CAPACITOR	39P
C116	QCTA1CH-180	CAPACITOR	18P
C117	QCTA1CH-100	CAPACITOR	10P
C118	QCFA1HZ-103	CAPACITOR	0.010 50V
C119	QCTA1CH-220	CAPACITOR	22P
C120	QCTA1CH-150	CAPACITOR	15P
C122	QCTA1CH-270	CAPACITOR	27P
C123	QCTA1CH-680	CAPACITOR	68P

S7000EG

Symbol No.	Part No.	Part Name	Description
C124	QCTA1CH-150	CAPACITOR	15P
C125	QCSA1HJ-820	CAPACITOR	82P 50V
C126	QCTA1CH-100	CAPACITOR	10P
C127	QCFA1HZ-103	CAPACITOR	0.010 50V
C128	QEK61CM-476	E CAPACITOR	47 16V
C129	QCFA1HZ-103	CAPACITOR	0.010 50V
C132	QCYA1HK-102	CAPACITOR	1000P 50V
C201	QCFA1EZ-104	CAPACITOR	0.10 25V
C202	QCTA1CH-391	CAPACITOR	390P
C203	QCTA1CH-561	CAPACITOR	560P
C204	QCTA1CH-102	CAPACITOR	1000P
C205	QCTA1CH-561	CAPACITOR	560P
C206	QCTA1CH-102	CAPACITOR	1000P
C207	QCFA1CZ-224	CAPACITOR	0.22 16V
C208	QCTA1CH-391	CAPACITOR	390P
C209	QEK60JM-107	E CAPACITOR	100 6.3V
C210	QCYA1HK-103	CAPACITOR	0.010 50V
C211	QCYA1HK-103	CAPACITOR	0.010 50V
C213	QCTA1CH-331	CAPACITOR	330P
C214	QCTA1CH-330	CAPACITOR	33P
C216	QCYA1HK-103	CAPACITOR	0.010 50V
C218	QCTA1CH-102	CAPACITOR	1000P
C219	QCYA1HK-103	CAPACITOR	0.010 50V
C220	QEK61AM-476	E CAPACITOR	47 10V
C221	QCYA1HK-103	CAPACITOR	0.010 50V
C224	QCFA1CZ-224	CAPACITOR	0.22 16V
C225	QCYA1HK-103	CAPACITOR	0.010 50V
C226	QCTA1CH-101	CAPACITOR	100P
C301	QCYA1EK-223	CAPACITOR	0.022 25V
C302	QCTA1CH-121	CAPACITOR	120P
C303	QCTA1CH-220	CAPACITOR	22P
C305	QCTA1CH-102	CAPACITOR	1000P
C306	QCTA1CH-220	CAPACITOR	22P
C307	QEKF1CM-106	E CAPACITOR	10 16V
C308	QCYA1HK-103	CAPACITOR	0.010 50V
L1	PELN0975-101JZ	COIL	100μ
L2	PELN0975-101JZ	COIL	100μ
L3	PU59988-101J	COIL	100μ
L4	PU59988-820J	COIL	82μ
L5	PELN0975-101JZ	COIL	100μ
L7	PU59988-180J	COIL	18μ
L8	PU59988-330J	COIL	33μ
L9	PU59988-330J	COIL	33μ
L10	PU59988-181J	COIL	180μ
L12	PELN0975-101JZ	COIL	100μ
L101	PU59988-560J	COIL	56μ
L102	PU59988-120J	COIL	12μ
L103	PU59988-330J	COIL	33μ
L104	PU59988-330J	COIL	33μ
L105	PU59988-220JY	COIL	22μ
L106	PU59988-180J	COIL	18μ
L107	PU59988-390J	COIL	39μ
L108	PU59988-121JY	COIL	120μ
L109	PU59988-100J	COIL	10μ
L112	PELN0975-101JZ	COIL	100μ
L201	PELN0975-101JZ	COIL	100μ
L202	PELN0530-101JZ	COIL	100μ
L301	PU59988-150J	COIL	15μ

S7000EG

NEW PARTS STANDARD

6.11 REAR BOARD ASSEMBLY LIST 55

SLK2024-00A

55

Symbol No.	Part No.	Part Name	Description
L302	PELN0975-101JZ	COIL	100 μ
SL1	PQ21805	SHIELD FLAME	
CN1	PU59973-11	CONNECTOR	11PIN
CN2	PEMC1056-114	CONNECTOR	14PIN
CN3	PEMC1056-114	CONNECTOR	14PIN

S7000EG

NEW PARTS STANDARD

6.10 DIGITAL SUB BOARD ASSEMBLY LIST 49

SLK1047-05-00A

49

Symbol No.	Part No.	Part Name	Description
IC101	MM1117XS	I.C.(M)	MITSUMI
R101	QRE141J-105Y	CAR.RESISTOR	1M 1/4W
R102	QRE141J-102Y	CAR.RESISTOR	1k 1/4W
R103	QRE141J-105Y	CAR.RESISTOR	1M 1/4W
C101	QCFB1HZ-104Y	CER.CAPACITOR	0.1 50V
C102	QEK61CM-476Z	E.CAPACITOR	47 16V
C103	QCFB1HZ-104Y	CER.CAPACITOR	0.1 50V
C104	QEP61EM-475Z	N.P.CAPACITOR	4.7 25V
C105	QEP61EM-475Z	N.P.CAPACITOR	4.7 25V
L101	PELN0975-101JZ	COIL	100 μ H
CN101	PEMC0723-010	CONNECTOR	10PIN
CN102	PEMC0723-012	CONNECTOR	12PIN
CN103	PEMC0723-012	CONNECTOR	12PIN
CN104	PEMC0723-006	CONNECTOR	6PIN
TP101	SQMX001-001Z	TEST POINT	
TP102	SQMX001-001Z	TEST POINT	
TP103	SQMX001-001Z	TEST POINT	

Symbol No.	Part No.	Part Name	Description
IC1	ICL232CPE	I.C.(M)	INTERSIL
IC2	TC4053BP	I.C.(M)	TOSHIBA
Q1	2SK658	FET	MATSUSHITA
Q2	DTA114ESA-T	TRANSISTOR	ROHM
Q3	DTC124ESA-T	TRANSISTOR	ROHM
D4	RD20ES/B2/-T2	ZENER DIODE	NEC
D5	RD20ES/B2/-T2	ZENER DIODE	NEC
D6	1SS133K-T2	DIODE	ROHM
R1	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R2	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R3	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R4	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R5	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R6	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R7	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R8	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R9	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R10	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R11	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R12	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R14	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R15	QRE141J-103Y	CAR.RESISTOR	10k 1/4W
R16	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R17	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R18	QRE141J-121Y	CAR.RESISTOR	120 1/4W
R19	QRE141J-121Y	CAR.RESISTOR	120 1/4W
C1	QFN31HJ-103Z	M.F.CAPACITOR	0.01 50V
C3	QEK61CM-226Z	E.CAPACITOR	22 16V
C4	QEK61CM-226Z	E.CAPACITOR	22 16V
C5	QEK61CM-226Z	E.CAPACITOR	22 16V
C6	QEK61CM-226Z	E.CAPACITOR	22 16V
C7	QDX11EJ-103Z	CER.CAPACITOR	0.01 25V
C8	QDX11EJ-103Z	CER.CAPACITOR	0.01 25V
C9	QFN31HJ-152Z	M.F.CAPACITOR	1500p 50V
CN1	PGZ02036	CONNECTOR	REMOTE 12PIN
CN2	PGZ01461	CONNECTOR	D-SUB 9PIN
CN3	PU59555-11	CONNECTOR	11PIN
CN4	PU59555-103	CONNECTOR	3PIN
JA1	PGZ02229	MINI JACK	R.A.EDIT
JA2	PGZ00409-03	PIN JACK	REMOTE IN
K1	PU60281-2Z	FERRITE BEADS	
K2	PU60281-2Z	FERRITE BEADS	
K3	PU60281-2Z	FERRITE BEADS	
K4	PGZ02241-221Z	N.FILTER	
K5	PGZ02241-221Z	N.FILTER	
K6	PGZ02241-221Z	N.FILTER	
K7	PGZ02241-221Z	N.FILTER	
K8	PGZ02241-221Z	N.FILTER	
K9	PGZ02241-221Z	N.FILTER	
K10	PGZ02241-221Z	N.FILTER	

NEW PARTS STANDARD

6.12 INTERFACE BOARD ASSEMBLY LIST 77

SLK2023-P0B

77□□□□□□

[REAR]

Symbol No.	Part No.	Part Name	Description
K11	PGZ02241-221Z	N.FILTER	M3x6
K12	PGZ02241-221Z	N.FILTER	
BC1	PRD49004	BRACKET	
SC1	PGZ00925-02	SCREW	
SC2	SDST3006Z	SCREW	

Symbol No.	Part No.	Part Name	Description
IC1	HD6473837F-1**	I.C.(M)	HITACHI
IC2	BR93LC56A	I.C.(M)	ROHM
IC3	BR93LC56A	I.C.(M)	ROHM
IC4	M51957BL	I.C.(M)	mitsubishi
Q1	DTC124ESA-T	TRANSISTOR	ROHM
D1	1SS133K-T2	DIODE	ROHM
D2	1SS133K-T2	DIODE	ROHM
D3	1SS133K-T2	DIODE	ROHM
R1	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R2	NRSA02J-273X	M.G.RESISTOR	27k 1/10W
R3	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R4	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R5	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R6	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R7	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R8	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R9	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R10	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R11	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R12	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R13	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R14	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R15	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R16	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R17	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R18	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R19	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R20	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R21	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R22	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R23	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R24	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R25	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R26	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R27	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R28	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R29	NRSA02J-104X	M.G.RESISTOR	100k 1/10W
R30	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R31	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R32	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R33	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R34	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R35	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R36	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R37	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R38	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R39	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
C1	NDC21HJ-150X	CER.CAPACITOR	15p 50V
C2	NDC21HJ-150X	CER.CAPACITOR	15p 50V
C3	QETC1HM-104Z	E.CAPACITOR	0.1 50V
C4	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C5	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C6	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C7	NCF21HZ-104X	CER.CAPACITOR	0.1 50V

NEW PARTS STANDARD

6.13 TBC BOARD ASSEMBLY LIST 88

SLK1040-POA

88

Symbol No.	Part No.	Part Name	Description
C8	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C9	QETC0JM-477Z	E.CAPACITOR	470 6.3V
C10	QETC0JM-477Z	E.CAPACITOR	470 6.3V
C11	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C13	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C14	NCF21HZ-104X	CER.CAPACITOR	0.1 50V
C15	NCB21HK-102X	CER.CAPACITOR	1000p 50V
C16	NCB21HK-102X	CER.CAPACITOR	1000p 50V
L1	PELN0687	COIL	
X1	CST9.83MTW	CRYSTAL	
X2	PEVB0422	CRYSTAL	
CN1	PU59555-11	CONNECTOR	11PIN
CN2	PU59555-7	CONNECTOR	7PIN
CN3	PEMC1102-005	CONNECTOR	5PIN
CN4	PU59555-12	CONNECTOR	12PIN

Symbol No.	Part No.	Part Name	Description
IC1	JCP0050	I.C.(M)	JVC
IC2BS	JCP0049	I.C.(M)	JVC
IC3	TC7W04F-X	I.C.(M)	TOSHIBA
IC4	TC7W08F-X	I.C.(M)	TOSHIBA
Q1	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q2	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q3	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q4	DTC144WUA-X	TRANSISTOR	ROHM
Q5	DTC144WUA-X	TRANSISTOR	ROHM
Q6	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q7	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q8	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q9	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q10	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q11	2SC4081/QRS/-X	TRANSISTOR	ROHM
Q12	DTC144WUA-X	TRANSISTOR	ROHM
Q15	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q16	2SA1576A/QRS/-X	TRANSISTOR	ROHM
Q17	2SD874/QR/-X	TRANSISTOR	MATSUSHITA
Q19	2SD874/QR/-X	TRANSISTOR	MATSUSHITA
D1	HZM4A-W	ZENER DIODE	HITACHI
D2	HZM4A-W	ZENER DIODE	HITACHI
D3	DAP202K-X	DIODE	ROHM
D4	11ES2	DIODE	INTER
R1	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R2	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R3	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R4	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R5	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R6	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R7	NRSA02J-333X	M.G.RESISTOR	33k 1/10W
R8	NRSA02J-183X	M.G.RESISTOR	18k 1/10W
R9	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R10	NRVA02D-621X	C.M.F.RESISTOR	620 1/10W
R11	NRSA02J-302X	M.G.RESISTOR	3k 1/10W
R12	NRSA02J-431X	M.G.RESISTOR	430 1/10W
R13	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R14	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R15	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R16	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R17	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R18	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R19	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R20	NRSA02J-562X	M.G.RESISTOR	5.6k 1/10W
R21	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R22	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R23	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R25	NRSA02J-821X	M.G.RESISTOR	820 1/10W
R26	NRVA02D-162X	C.M.F.RESISTOR	1.6k 1/10W
R28	NRVA02D-162X	C.M.F.RESISTOR	1.6k 1/10W
R29	NRSA02J-151X	M.G.RESISTOR	150 1/10W
R31	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R33	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R34	NRSA02J-681X	M.G.RESISTOR	680 1/10W
R35	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W

[TBC]

Symbol No.	Part No.	Part Name	Description
R42	NRSA02J-222X	M.G.RESISTOR	2.2k 1/10W
R43	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R44	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R45	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R46	NRSA02J-182X	M.G.RESISTOR	1.8k 1/10W
R47	NRVA02D-152X	C.M.F.RESISTOR	1.5k 1/10W
R48	NRVA02D-222X	C.M.F.RESISTOR	2.2k 1/10W
R49	NRVA02D-122X	C.M.F.RESISTOR	1.2k 1/10W
R50	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R51	NRSA02J-121X	M.G.RESISTOR	120 1/10W
R52	NRVA02D-183X	C.M.F.RESISTOR	18k 1/10W
R53	NRVA02D-511X	C.M.F.RESISTOR	510 1/10W
R54	NRVA02D-121X	C.M.F.RESISTOR	120 1/10W
R55	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R57	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R58	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R59	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R60	NRSA02J-271X	M.G.RESISTOR	270 1/10W
R61	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R63	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R64	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R65	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R66	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R67	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R68	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R71	NRSA02J-511X	M.G.RESISTOR	510 1/10W
R73	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R74	NRSA02J-113X	M.G.RESISTOR	11k 1/10W
R75	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R76	NRSA02J-105X	M.G.RESISTOR	1M 1/10W
R77	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R78	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R79	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R80	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R81	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R82	NRSA02J-564X	M.G.RESISTOR	560k 1/10W
R83	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R84	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R85	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R86	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R87	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R88	NRSA02J-103X	M.G.RESISTOR	10k 1/10W
R89	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R90	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R91	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R92	NRSA02J-332X	M.G.RESISTOR	3.3k 1/10W
R93	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R94	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R95	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R96	NRSA02J-472X	M.G.RESISTOR	4.7k 1/10W
R97	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R98	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R99	NRSA02J-271X	M.G.RESISTOR	270 1/10W
R100	NRSA02J-101X	M.G.RESISTOR	100 1/10W
R101	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R102	NRSA02J-471X	M.G.RESISTOR	470 1/10W
R103	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R104	NRSA02J-561X	M.G.RESISTOR	560 1/10W
R105	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W

Symbol No.	Part No.	Part Name	Description
R106	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R107	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R108	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R109	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R110	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R111	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R112	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R113	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R114	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R115	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R116	NRSA02J-0R0X	M.G.RESISTOR	0 1/10W
R118	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R119	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
R120	NRSA02J-102X	M.G.RESISTOR	1k 1/10W
VR1	NVP1416-103X	TRIM.RESISTOR	10k, SYNC LEVEL
VR2	NVP1416-202X	TRIM.RESISTOR	2k, Y LEVEL
C1	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C2	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C3	NEH90JM-107X	E.CAPACITOR	100 6.3V
C4	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C5	NEH91CM-106X	E.CAPACITOR	10 16V
C6	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C8	NEH91EM-475X	E.CAPACITOR	4.7 25V
C9	NDC21HJ-220X	CER.CAPACITOR	22p 50V
C10	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C11	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C12	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C14	NDC21HJ-101X	CER.CAPACITOR	100p 50V
C15	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C16	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C17	NEH91HM-225X	E.CAPACITOR	2.2 50V
C18	NEH91HM-225X	E.CAPACITOR	2.2 50V
C19	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C20	NEH91EM-475X	E.CAPACITOR	4.7 25V
C21	NCB21HK-682X	CER.CAPACITOR	6800p 50V
C22	NEH91EM-475X	E.CAPACITOR	4.7 25V
C23	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C24	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C25	NDC21HJ-181X	CER.CAPACITOR	180p 50V
C26	NDC21HJ-391X	CER.CAPACITOR	390p 50V
C27	NCB21HK-473X	CER.CAPACITOR	0.047 50V
C28	NCB21HK-473X	CER.CAPACITOR	0.047 50V
C29	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C30	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C32	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C33	NDC21HJ-470X	CER.CAPACITOR	47p 50V
C34	NDC21HJ-121X	CER.CAPACITOR	120p 50V
C35	NDC21HJ-330X	CER.CAPACITOR	33p 50V
C36	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C37	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C38	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C39	NCB21HK-103X	CER.CAPACITOR	0.01 50V
C40	NCF21EZ-104X	CER.CAPACITOR	0.1 25V
C41	NEH90JM-336X	E.CAPACITOR	33 6.3V
C42	NCS21HJ-102X	CER.CAPACITOR	1000p 50V
C43	NEH90JM-107X	E.CAPACITOR	100 6.3V

Symbol No.	Part No.	Part Name	Description		Symbol No.	Part No.	Part Name	Description
C44	NCB21HK-103X	CER.CAPACITOR	0.01	50V	LC1	PGZ01972Z	LC FILTER	
C46	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	LC2	PGZ01972Z	LC FILTER	
C47	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	LC3	PU59736-330	LC FILTER	
C48	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	LC4	PU59736-330	LC FILTER	
C49	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	LC5	PU59736-330	LC FILTER	
C50	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	LC6	PU59736-330	LC FILTER	
C51	NCF21EZ-104X	CER.CAPACITOR	0.1	25V				
C52	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	X1	PGZ01007	CRYSTAL	14.21875MHz
C53	NCF21EZ-104X	CER.CAPACITOR	0.1	25V				
C54	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	CN1	PEMC0712-111	CONNECTOR	11PIN
C55	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	CN2	PEMC0712-118	CONNECTOR	18PIN
C56	NEH90JM-107X	E.CAPACITOR	100	6.3V				
C57	NCB21HK-103X	CER.CAPACITOR	0.01	50V	TP1	SCV1880-001	TEST POINT	
C58	NDC21HJ-330X	CER.CAPACITOR	33p	50V	TP2	SCV1880-001	TEST POINT	
C59	NDC21HJ-100X	CER.CAPACITOR	10p	50V	TP3	SCV1880-001	TEST POINT	
C60	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	TP4	SCV1880-001	TEST POINT	
C61	NCB21HK-103X	CER.CAPACITOR	0.01	50V	TP5	SCV1880-001	TEST POINT	
C62	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	TP6	SCV1880-001	TEST POINT	
C63	NDC21HJ-820X	CER.CAPACITOR	82p	50V				
C64	NDC21HJ-101X	CER.CAPACITOR	100p	50V	FL1	PELN1061	FL FILTER	
C65	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	FL2	PELN1062	FL FILTER	
C66	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	FL3	PELN1146	FL FILTER	
C67	NCF21EZ-104X	CER.CAPACITOR	0.1	25V				
C68	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	SL1	PRD31226	SHIELD FRAME	
C69	NCF21EZ-104X	CER.CAPACITOR	0.1	25V	SL2	PRD31227	SHIELD CASE	
C70	NCF21EZ-104X	CER.CAPACITOR	0.1	25V				
C71	NCF21EZ-104X	CER.CAPACITOR	0.1	25V				
C72	NEH90JM-336X	E.CAPACITOR	33	6.3V				
C73	NCS21HJ-102X	CER.CAPACITOR	1000p	50V				
C74	NEH90JM-107X	E.CAPACITOR	100	6.3V				
C75	NCB21HK-103X	CER.CAPACITOR	0.01	50V				
C76	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C77	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C78	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C79	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C80	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C81	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C82	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C83	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C84	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C86	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C87	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C89	NCB21HK-332X	CER.CAPACITOR	3300p	50V				
C90	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C91	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
C92	NDC21HJ-470X	CER.CAPACITOR	47p	50V				
L1	NQL124K-221X	COIL	220 μ H					
L3	YU41134-331JY	COIL	330 μ H					
L4	NQL124J-820X	COIL	82 μ H					
L5	YU41134-181JY	COIL	180 μ H					
L6	NQL124J-121X	COIL	120 μ H					
L7	NQL124J-121X	COIL	120 μ H					
L8	NQL124K-100X	COIL	10 μ H					
L9	NQL124K-101X	COIL	100 μ H					
L10	NQL124M-1R0X	COIL	1 μ H					
L11	NQL124K-100X	COIL	10 μ H					
L12	YU41134-331JY	COIL	330 μ H					

OLD PARTS NUMBER

6.14 Y/C SEPA BOARD ASSEMBLY LIST 8 9

PB20669D

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Symbol No.	Part No.	Part Name	Description
IC1	NJM2240M	IC	JRC
IC2	JCP0042	IC	JVC
Q1	2SC4081(QRS)	TRANSISTOR	ROHM
Q2	2SA1576(QRS)	TRANSISTOR	ROHM
Q3	2SC4081(QRS)	TRANSISTOR	ROHM
Q4	2SA1576(QRS)	TRANSISTOR	ROHM
Q5	2SC4081(QRS)	TRANSISTOR	ROHM
Q6	2SA1576(QRS)	TRANSISTOR	ROHM
Q7	2SC4081(QRS)	TRANSISTOR	ROHM
Q8	2SC4081(QRS)	TRANSISTOR	ROHM
Q9	2SC4081(QRS)	TRANSISTOR	ROHM
Q10	2SC3932(IST)	TRANSISTOR	MATSUSHITA
Q11	2SC4081(QRS)	TRANSISTOR	ROHM
Q12	2SC4081(QRS)	TRANSISTOR	ROHM
Q13	2SC4081(QRS)	TRANSISTOR	ROHM
Q14	2SC3932(IST)	TRANSISTOR	MATSUSHITA
Q15	2SA1576(QRS)	TRANSISTOR	ROHM
D1	DAP202U	DIODE	ROHM
R1	NRSA63J-102N	RESISTOR	1.0K 1/16W
R2	NRSA63J-471N	RESISTOR	470 1/16W
R3	NRSA63J-361N	RESISTOR	360 1/16W
R4	NRSA63G-332N	RESISTOR	3.3K 1/16W
R5	NRSA63J-271N	RESISTOR	270 1/16W
R6	NRSA63J-271N	RESISTOR	270 1/16W
R7	NRSA63J-271N	RESISTOR	270 1/16W
R8	NRSA63J-102N	RESISTOR	1.0K 1/16W
R9	NRSA63J-473N	RESISTOR	47K 1/16W
R10	NRSA63J-102N	RESISTOR	1.0K 1/16W
R11	NRSA63J-102N	RESISTOR	1.0K 1/16W
R12	NRSA63J-222N	RESISTOR	2.2K 1/16W
R13	NRSA63J-182N	RESISTOR	1.8K 1/16W
R14	NRSA63J-102N	RESISTOR	1.0K 1/16W
R15	NRSA63J-102N	RESISTOR	1.0K 1/16W
R16	NRSA63J-222N	RESISTOR	2.2K 1/16W
R17	NRSA63J-681N	RESISTOR	680 1/16W
R18	NRSA63J-102N	RESISTOR	1.0K 1/16W
R19	NRSA63J-102N	RESISTOR	1.0K 1/16W
R21	NRSA63J-222N	RESISTOR	2.2K 1/16W
R22	NRSA63J-681N	RESISTOR	680 1/16W
R23	NRSA63J-102N	RESISTOR	1.0K 1/16W
R24	NRSA63J-222N	RESISTOR	2.2K 1/16W
R25	NRSA63J-132N	RESISTOR	1.3K 1/16W
R26	NRSA63J-472N	RESISTOR	4.7K 1/16W
R27	NRSA63J-102N	RESISTOR	1.0K 1/16W
R28	NRSA63J-361N	RESISTOR	360 1/16W
R29	NRSA63J-102N	RESISTOR	1.0K 1/16W
R30	NRSA63J-223N	RESISTOR	22K 1/16W
R31	NRSA63J-223N	RESISTOR	22K 1/16W
R32	NRSA63J-102N	RESISTOR	1.0K 1/16W
R33	NRSA63J-222N	RESISTOR	2.2K 1/16W
R34	NRSA63J-222N	RESISTOR	2.2K 1/16W
R35	NRSA63J-472N	RESISTOR	4.7K 1/16W
R36	NRSA63J-102N	RESISTOR	1.0K 1/16W
R37	NRSA63J-361N	RESISTOR	360 1/16W
R38	NRSA63J-102N	RESISTOR	1.0K 1/16W

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Symbol No.	Part No.	Part Name	Description
R39	NRSA63J-0R0N	RESISTOR	0.0 1/16W
R40	NRSA63J-102N	RESISTOR	1.0K 1/16W
R41	NRSA63J-222N	RESISTOR	2.2K 1/16W
R42	NRSA63J-331N	RESISTOR	330 1/16W
R43	NRSA63J-102N	RESISTOR	1.0K 1/16W
R44	NRSA63J-102N	RESISTOR	1.0K 1/16W
R45	NRSA63J-102N	RESISTOR	1.0K 1/16W
R46	NRSA63J-102N	RESISTOR	1.0K 1/16W
R47	NRSA63J-102N	RESISTOR	1.0K 1/16W
R48	NRSA63J-102N	RESISTOR	1.0K 1/16W
R49	NRSA63J-102N	RESISTOR	1.0K 1/16W
R50	NRSA63J-102N	RESISTOR	1.0K 1/16W
R51	NRSA63J-102N	RESISTOR	1.0K 1/16W
R54	NRSA63J-103N	RESISTOR	10K 1/16W
R63	NRSA63J-222N	RESISTOR	2.2K 1/16W
R66	NRSA63J-103N	RESISTOR	10K 1/16W
R67	NRSA63J-153N	RESISTOR	15K 1/16W
R68	NVP1311-223N	V RESISTOR	22K DIG I/O LEV
C1	NCS31HJ-8R0A	CAPACITOR	8.0P 50V
C2	NCB31HK-103A	CAPACITOR	0.010 50V
C3	QEK60JM-107	E CAPACITOR	100 6.3V
C4	NCB31HK-103A	CAPACITOR	0.010 50V
C5	QEK61EM-475	E CAPACITOR	4.7 25V
C6	NCB31HK-102A	CAPACITOR	1000P 50V
C7	NCB31HK-103A	CAPACITOR	0.010 50V
C8	NCT06CH-5R0A	CAPACITOR	5.0P 50V
C9	NCB31HK-103A	CAPACITOR	0.010 50V
C10	NCB31HK-103A	CAPACITOR	0.010 50V
C11	NCF31EZ-104A	CAPACITOR	0.10 25V
C12	QEK60JM-337	E CAPACITOR	330 6.3V
C13	NCF31EZ-104A	CAPACITOR	0.10 25V
C14	QEK60JM-107	E CAPACITOR	100 6.3V
C15	NCF31EZ-104A	CAPACITOR	0.10 25V
C16	QEK60JM-107	E CAPACITOR	100 6.3V
C17	NCF31EZ-104A	CAPACITOR	0.10 25V
C18	QEK60JM-107	E CAPACITOR	100 6.3V
C19	NCF31EZ-104A	CAPACITOR	0.10 25V
C20	QEK60JM-107	E CAPACITOR	100 6.3V
C21	NCF31EZ-104A	CAPACITOR	0.10 25V
C22	QEK60JM-337	E CAPACITOR	330 6.3V
C24	QEK60JM-476	E CAPACITOR	47 6.3V
C25	NCB31HK-103A	CAPACITOR	0.010 50V
C26	QEK61HM-105	E CAPACITOR	1.0 50V
C27	NCB31HK-103A	CAPACITOR	0.010 50V
C28	NCF31EZ-104A	CAPACITOR	0.10 25V
C29	NCF31EZ-104A	CAPACITOR	0.10 25V
C30	NCF31EZ-104A	CAPACITOR	0.10 25V
C31	NCF31EZ-104A	CAPACITOR	0.10 25V
C32	QEK60JM-476	E CAPACITOR	47 6.3V
C33	NCB31HK-103A	CAPACITOR	0.010 50V
C34	NCB31HK-103A	CAPACITOR	0.010 50V
C35	QEK60JM-476	E CAPACITOR	47 6.3V
C36	NCB31HK-103A	CAPACITOR	0.010 50V
C37	QEK61EM-335	E CAPACITOR	3.3 25V
C38	QEK60JM-476	E CAPACITOR	47 6.3V
C39	NCB31HK-103A	CAPACITOR	0.010 50V
C40	NCB31HK-103A	CAPACITOR	0.010 50V
C41	NCB31HK-103A	CAPACITOR	0.010 50V

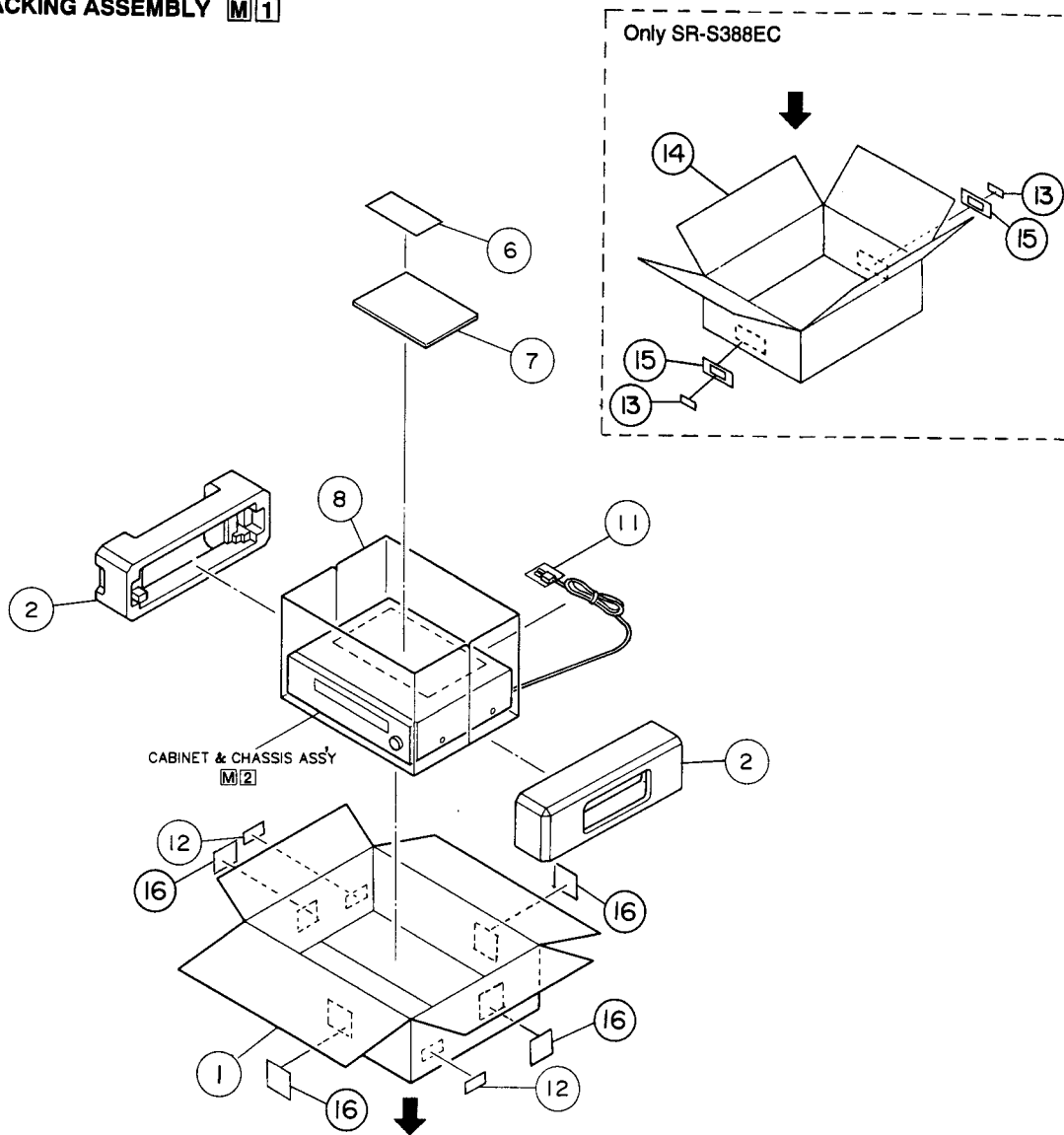
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Symbol No.	Part No.	Part Name	Description
C42	NCB31HK-103A	CAPACITOR	0.010 50V
C43	NCF31EZ-104A	CAPACITOR	0.10 25V
C44	NCF31EZ-104A	CAPACITOR	0.10 25V
C45	NCF31EZ-104A	CAPACITOR	0.10 25V
C46	NCF31EZ-104A	CAPACITOR	0.10 25V
C47	NCB31HK-103A	CAPACITOR	0.010 50V
C48	NCF31EZ-104A	CAPACITOR	0.10 25V
C56	NCF31EZ-104A	CAPACITOR	0.10 25V
C64	NCF31EZ-104A	CAPACITOR	0.10 25V
C66	NCS31HJ-470A	CAPACITOR	47P 50V
C67	NCS31HJ-470A	CAPACITOR	47P 50V
C68	NCS31HJ-470A	CAPACITOR	47P 50V
C69	NCS31HJ-470A	CAPACITOR	47P 50V
C70	NCS31HJ-470A	CAPACITOR	47P 50V
C71	NCS31HJ-470A	CAPACITOR	47P 50V
C72	NCS31HJ-470A	CAPACITOR	47P 50V
C73	NCS31HJ-470A	CAPACITOR	47P 50V
C74	NCS31HJ-470A	CAPACITOR	47P 50V
C75	NCS31HJ-470A	CAPACITOR	47P 50V
C76	NCS31HJ-470A	CAPACITOR	47P 50V
C77	NCS31HJ-470A	CAPACITOR	47P 50V
C78	NCS31HJ-470A	CAPACITOR	47P 50V
C79	NCS31HJ-470A	CAPACITOR	47P 50V
C82	NCB31HK-103A	CAPACITOR	0.010 50V
C83	QEK60JM-476	E CAPACITOR	47 6.3V
C84	NCF31EZ-104A	CAPACITOR	0.10 25V
C89	QEK1CM-106	E CAPACITOR	10 16V
C91	QEK61HM-474	E CAPACITOR	0.47 50V
C92	QEK61HM-474	E CAPACITOR	0.47 50V
L1	PU48530-100J	COIL	10 μ
L2	PU48530-101K	COIL	100 μ
L3	PU59153-101K	COIL	100 μ
L4	PU59153-101K	COIL	100 μ
L5	PU48530-101K	COIL	100 μ
L6	PU48530-101K	COIL	100 μ
L7	PU48530-101K	COIL	100 μ
L8	PU59153-101K	COIL	100 μ
L9	PU48530-101K	COIL	100 μ
L10	PU48530-101K	COIL	100 μ
LPF1	PELN1182	LC FILTER	
LPF2	PELN1182	LC FILTER	
LPF3	PELN1182	LC FILTER	
LPF4	PELN1181	LC FILTER	
LPF5	PELN1181	LC FILTER	
LC1	PU59736-102	N FILTER	
LC2	PU59736-331	N FILTER	
SL1	PQ34851-1-1	SHIELD FRAME	
SL2	PQ34852-1-2	SHIELD COVER	
CN1	PEMC0712-112	PIN HEADER	12PIN
CN2	PEMC0712-110	PIN HEADER	10PIN

S7000EG

SECTION 7 REPACKING

7.1 PACKING ASSEMBLY



Note: Accessories above are subject to change without notice.

7.2 PACKING ASSEMBLY LIST

Symbol No.	Part No.	Part Name	Description
1	—	CARTON BOX	FOR SR-S388EC FOR SR-S388E/S388EK (English) FOR SR-S388EC (Chinese)
2	—	CUSHION	
6	PRD31215	INSTRUCTION SHEET	
7	SL96072	INSTRUCTIONS	
7	SL96073	INSTRUCTIONS	FOR SR-S388E/EK (German & French)
8	—	PLASTIC BAG	
11	—	CUSHION	
12	—	SERIAL No. LABEL	
13	—	SERIAL No. LABEL	FOR SR-S388EC
14	—	CARTON BOX	FOR SR-S388EC OUTER CARTON FOR SR-S388EC FOR SR-S388EK
15	—	LABEL	
16	—	LABEL (PACKING)	

SECTION 8

TECHNICAL INFORMATION

8.1 SYSCON CIRCUIT

8.1.1 Syscon CPU pin function (IC601)

PIN No.	Pin Name	I/O	NOTE
1	-	IN	Not used
2	AVG_FM	IN	AUTO TRACKING DATA (AVG VOLTAGE OF PB LEVEL INPUT)
3	-	IN	Not used
4	6.5H_DET	IN	PB SWITCHING POINT ADJUST PULSE
5	AVss	GND	GND
6	TEST	GND	GND
7	X2	-	TIMER CLOCK 32.768KHz
8	X1	-	TIMER CLOCK 32.768KHz
9	Vss	GND	GND
10	OSC1	-	SYSTEM CLOCK 10MHz
11	OSC2	-	SYSTEM CLOCK 10MHz
12	RESET	IN	RESET AT CONNECT VCR TO AC
13	NMI	GND	GND
14	Y/C(H)	IN	VIDEO INPUT (LINE or Y/C) SELECT
15	WIDE(H)	IN	WIDE DETECTION IN PB
16	TRICK(H)	OUT	SPECIAL PB CONTROL ON:H
17	V.S.CS	OUT	CHIP SELECT (VIDEO CPU)
18	V.S.RESET	OUT	RESET FOR VIDEO CPU
19	START_SENS	IN	LEADER TAPE DETECT (DETECT ON:L)
20	END_SENS	IN	LEADER TAPE DETECT (DETECT ON:L)
21	P.MUTE(H)	OUT	PICTURE MUTE CONTROL
22	TU_FG	IN	TAKE-UP REEL ROTATION DET/TAPE REMAIN
23	SUP_FG	IN	SUPPLY REEL ROTATION DET/TAPE REMAIN
24	SP(L)	OUT	SP MODE:L
25	-	IN	Not used
26	-	IN	Not used
27	-	IN	Not used
28	SERVO	OUT	CAPSTAN MOTOR CONTROL (SERVO:L/SYSCON:H)
29	LCM1	OUT	LOADING MOTOR DRIVE(1)
30	LCM2	OUT	LOADING MOTOR DRIVE(2)
31	HEAD_SEL	OUT	HEAD SELECT CONTROL (SP:L/LP:M/EP:L)
32	A/M/S	OUT	PRE/REC CIRCUIT CONTROL (AUTO:M/MANUAL:H/S&S:L)
33	REC_ST(H)	OUT	REC START:H
34	H.REC_ST(L)	OUT	HiFi AUDIO REC START:L
35	FLY_ST(H)	OUT	FLYING ERASE HEAD CONTROL (FE ON:H)
36	LP SPE(H)	OUT	LP SPECIAL PB ON:H
37	V.REC(H)	OUT	VIDEO REC MODE:H
38	HiFi MUTE(H)	OUT	HiFi AUDIO MUTE CONTROL (MUTE ON:H)
39	MEMORY/OUT_CLK	OUT	MEMORY IC/MAIN IC DATA TRANSFER CLOCK
40	TBC(H)	OUT	TBC CONTROL (TBC ON:H)

PIN No.	Pin Name	I/O	NOTE
4 1	SYNCDDET	IN	Not used
4 2	SERVO_DATA	OUT	SERVO IC COTROL DATA
4 3	LOCK DET	IN	Not used
4 4	T.MUTE	OUT	Not used
4 5	V.P_CTL	OUT	V.PULSE ADDITION TIMING CONTROL
4 6	PAUSE(L)	OUT	CAPSTAN MOTOR CONTROL (PAUSE:L)
4 7	CAP_REV(L)	OUT	CAPSTAN MOTOR CONTROL (FWD:H/REV:L)
4 8	-	OUT	Not used
4 9	-	OUT	Not used
5 0	-	IN	Not used
5 1	-	IN	Not used
5 2	CTL_C/D	IN	CTL PULSE INPUT (MODE/BLANK PORTION DETECT)
5 3	PROTE	IN	SWD 5V/12V DETECT
5 4	IN_DATA	IN	P/S CONVERTER CONTROL DATA
5 5	IN_CLK	OUT	P/S CONVERTER CONTROL TRANSFER CLOCK
5 6	NORM.MUTE	OUT	NORMAL AUDIO MUTE CONTROL (MUTE:H)
5 7	S_OUT	OUT	IF/VIDEO CPU CONTROL DATA
5 8	S_IN	IN	IF/VIDEO CPU CONTROL DATA
5 9	S_CLOCK	OUT	IF/VIDEO CPU DATA TRANSFER CLOCK
6 0	H_DATA	OUT	AUDIO IC CONTROL DATA
6 1	STB(L)	OUT	CLOCK OUTPUT PERMISSION
6 2	H_CLOCK	OUT	AUDIO IC DATA TRANSFER CLOCK
6 3	Vcc	5V	SYSTEM POWER
6 4	SYS_CLK/MOMORY_DATA	I/O	MAIN IC/MEMORY IC DATA TRANSFER CLOCK
6 5	OUT_DATA	OUT	MAIN IC DATA
6 6	-	OUT	Not used
6 7	CTL_CLOCK	IN	INDEX DATA CONTROL
6 8	MEMORY_CE	OUT	MEMORY IC CHIP ENABLE
6 9	CAP_FG_C/D	IN	TAPE SPEED DETECT/BACK SPACE COUNT
7 0	DUTY_I/O	I/O	INDEX DATA CONTROL
7 1	DRUM_FF	IN	DRUM ROTATION DETECT/REC TIMING CONTROL
7 2	AVcc	5V	SYSTEM POWER (for ANALOG)
7 3	WIDE DET	IN	WIDE PICTURE INPUT DETECT (H)
7 4	POWER_DOWN	IN	POWER DOWN DETECT (POWER DOWN:L)
7 5	DRUM_CTL_V	OUT	DRUM MOTOR VOLTAGE CONTROL
7 6	CAP_V_CTL	OUT	CAPSTAN MOTOR VOLTAGE CONTROL
7 7	D.V.DET	IN	DRUM DRIVE VOLTAGE DETECT
7 8	TU-LED	IN	Not used
7 9	A.LEVEL(L)	IN	AUDIO OUTPUT LEVEL(Lch)
8 0	A.LEVEL(R)	IN	AUDIO OUTPUT LEVEL(Rch)